

Annual Return of Statistics relating to Forest Administration in British India for the year 1933-34

(With which is incorporated
the Quinquennial Review,
ending 31st March 1934)



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Corrigenda.

Annual Return of Statistics relating to Forest Administration in British India for the year 1932-33, Statement XII, page 16, columns 2, 3 and 5.

Against Assam *read* 652 ; 2,259 and 2,911 *for* 806 ; 13,899 and 14,705, respectively.

Against Total 1932-33 *read* 138,868 ; 21,761 and 163,154 *for* 139,022 ; 33,401 and 174,948, respectively.

Errata to the Annual Return of Statistics relating to Forest Administration in British India for the year 1933-34.

Page 35—Statement XIII—

In column 13 against Coorg *for* the figure 8 *read* '8 and against the totals for 1930-31 *for* the figures 1961 *read* 196.

In column 6 against N.-W. F. Province *for* the figure 22.000 *read* 22,000.

Page 33—Statement XI—

In column 22 under totals against 1929-30 *for* the figures 14,080,484 *read* 14,083,895.

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QUINQUENNIAL REVIEW.

Constitution of the Forests.

The following review of Forest Administration in British India during the five years ending 31st March 1934 is published for general information.

Forest Area.—At the close of the quinquennium under review the forest area in British India, including the Shan States, amounted to 282,664 square miles, of which 106,079 square miles are reserved, 7,003 square miles protected, and 169,582 square miles unclassed State forests, the whole representing 25·7 per cent. of the total area of British India (with the Shan States) or taking into account only reserved and protected forests 10·3 per cent.

The net increase over the previous quinquennium is 32,842 square miles which is mainly due to the transfer of a large area of unclassed forest in the Federated Shan States to the Forest department.

Other important changes are:—

Increase.—1,041 square miles in Assam due to addition of Sadiya Frontier tract and recalculation of areas; 105 square miles in the North-West Frontier Province by transfer from the Civil department; 104 square miles in Bengal, 397 square miles in Burma and 337 square miles in Coorg due to bringing certain areas under the control of the Forest department.

Decrease.—148 square miles in the Punjab disforested for colonisation purposes; 211 square miles in the Central Provinces and 61 square miles in Bihar and Orissa were given out mainly for cultivation. A net decrease of 2,984 square miles in Madras was due to the transfer of areas to be constituted as Ryots' forests under the control of the Revenue department.

2. *Forest Surveys.*—The area surveyed by the Survey of India amounted to 4791·8 square miles, and 798 sheets were published. The cost debited to the Forest department on account of mapping and publishing and the cost of special surveys, etc., amounted to Rs. 5,11,818 as compared with a sum of Rs. 11,47,660 during the previous period.

Organisation.

3. *Administration and Control.*—The appointment of Inspector General of Forests and President, Forest Research Institute and College, was held by Sir Alexander Rodger till the 13th August 1930 when he proceeded on leave preparatory to retirement. He was succeeded by Mr. A. D. Blascheck who held the post till the 9th November 1933 before proceeding on leave preparatory to retirement. Mr. C. G. Trevor took over charge from Mr. A. D. Blascheck on the afternoon of the 9th November 1933.

During the period under review the Inspector General of Forests made tours of inspection in Assam, Bengal, Burma, Bihar and Orissa, Coorg, Madras, and the Andamans.

A post of a Conservator of Forests was created in 1930 in the North-West Frontier Province and forest operations were extended to the whole province including the Agencies. In April 1932 when the North-West Frontier Province was declared to be a Governor's province 'Forests' became a "Transferred Subject" and were placed under the control of a Minister.

During the whole of the period under review "Forests" were a transferred subject in the provinces of Burma and Bombay.

In consequence of the severe trade depression and the slump in all commodities including timber which has swept over the whole world, all possible reduction in expenditure had to receive the earnest consideration of the department. In addition to the emergency cut in the salaries of the staff considerable reduction was made in the cadre. In Bengal one post of Conservator was held in abeyance. Three vacant posts in the Indian Forest Service in the United Provinces, one post of Conservator and eight posts in the Indian Forest Service

in the Punjab have been abolished. The Indian Forest Service cadre of Bihar and Orissa has been reduced from seventeen to fifteen: the actual strength being 16. In Assam the cadre of the Indian Forest Service has been reduced from seventeen to sixteen. One of the two posts of Conservator and the posts of Silviculturist and Working Plan Officer were kept in abeyance. The Indian Forest Service cadre of the Central Provinces has been reduced from thirty-two to twenty-nine.

In view of the impending constitutional changes the Madras Government have decided to have a unified forest service combining the Indian Forest Service and Madras Forest Service with a strength of eighty-four posts as against one hundred at the commencement of the quinquennium. In Burma Conservators' circles were reduced from nine to six and the combined Indian Forest Service and Burma Forest Service Class I cadre reduced from one hundred and nineteen to eighty-four. In Bombay the gazetted services of the Forest department were provincialised with effect from 1st October 1929. The service is designated the Bombay Forest Service and has been divided into classes I and II. There are at present 49 officers in the cadre (as against the original strength of 70), i.e., twenty-three Indian Forest Service, eight Class I officers and eighteen Class II officers.

Recruitment and Training.

4(a). *Indian Forest Service*.—Pending a discussion on the recommendation of the Services Sub-Committee of the Round Table Conference, 1930, recruitment to the Indian Forest Service both direct and by promotion was suspended in 1931.

The Indian Forest Service College which was opened in 1926 trained twenty-eight students in all as follows:—

1926-28	. . . . .	11 students.
1927-29	. . . . .	6 „
1928-30	. . . . .	5 „
1929-31	. . . . .	4 „
1930-32	. . . . .	2 „

The College had to be closed down in November 1932 as the number of students gradually decreased and sufficient support for its continuance was not forthcoming from the Provinces.

In their report the Joint Parliamentary Committee have recommended the maintenance of a common training centre for Forest officers and if the Indian Provinces unanimously demand such a training the re-opening of the College may be considered.

The recruitment made to the Indian Forest Service in provinces other than Bombay and Burma during the 5 years period under review compares as follows with the preceding quinquennium ending 31st March 1929:—

	During the 5-year period	
	1924-25 to 1928-29.	1929-30 to 1933-34
Europeans	5	5
Indians	32	16

It was in 1924 that the ratio of recruitment of Indians and Europeans to the Indian Forest Service was fixed at 75 per cent. and 25 per cent. respectively. The number of Indians and Europeans who were appointed to Indian Forest Service after 1924 in the provinces other than Bombay and Burma and are still in service is Indians 47 and Europeans 10. This shows a deficiency of 4 in the European quota and is due partly to the fact that recruitment to the Indian Forest Service was suspended in 1931 and partly to casualties among the appointed staff.

The proportion of promoted officers to those appointed direct during the preceding quinquennium was 24.4 per cent., whereas the proportion in the quinquennium under review has been 20.8 per cent. of the total recruitment.

The total number of officers in the Indian Forest Service in March 1934 was as follows :—

(1) Europeans	189
(2) Indians	92
(3) Burmese	1

(b) *Provincial Forest Service*.—Except in Assam and Burma there has been no direct recruitment to the Provincial Forest Service during the period but each province made its own arrangements for recruiting the Provincial Forest Service by promoting suitable officers from the subordinate service.

(c) *Training of Rangers*.—As a temporary measure the Forest College at Dehra Dun for the training of forest rangers was closed down in October 1933 as sufficient number of students were not forthcoming. The College, however, has re-opened on the 1st of April 1935 with 27 students.

The number of students who obtained certificates during the period were as follows :—

1930	23
1931	18
1932	19
1933	9

Ranger students for Madras, Bihar and Orissa, the Central Provinces and parts of Southern India continued to be trained at the Forest College at Coimbatore.

5. *Forest Engineering Service*.—Fifteen officers in 1921 and three in 1922 were appointed to this service. Fourteen posts in the cadre of Burma, the United Provinces, Bihar and Orissa, Assam and Bengal have been abolished. This service is gradually dwindling and there are now only four posts in existence: one each in Bombay and Madras and two in the Punjab, one of the latter will be abolished as soon as the officer holding it is transferred to the Indian Service of Engineers.

Conservation and Improvement.

6. *Fire Protection*.—The area over which special fire protection was attempted shows an increase of 4,520 square miles or 10.7 per cent. in 1933-34 as compared with the figures for 1928-29. The percentage of forest protected during the five years under report was 41.5 per cent. on the average as against 40 per cent. in the previous quinquennium and the percentage of failure to area attempted has varied e.g., 6.5 per cent. in 1931-32 to 4.2 per cent. in 1932-33 and 4.6 per cent. in 1933-34.

7. *Grazing*.—During the year 1933-34 over 12,079,000 animals were provided with grazing in State forests of all classes and out of this 4,707,610 grazed free. The figures for 1928-29 were over 14,170,000 (4,889,000 grazed free) and for 1923-24 they were 13,300,000 (4,800,000 grazed free).

The economic depression is mainly responsible for the decrease in the number of cattle that grazed on payment of fees, except that in Bombay the decrease was partly due to admitting calves under eighteen months free of charge. The excessive number of cattle of poor breed admitted to the forests and consequent overgrazing in thickly populated areas still remains a conspicuous feature in the grazing system of this country with the result that both denudation and the resulting erosion are all too common phenomena of the outer hills of the Himalaya and the hilly regions of the Peninsula. It is a fact far too little known that India has suffered immense losses from this evil during the past century.

8. *Afforestation*.—The work of afforestation was seriously hampered owing to financial stringency.

In the United Provinces neither the Government nor the Zemindars were able to do much for want of funds. Considerable attention was given to Canal side plantations in co-operation with the Irrigation department.

No afforestation work was done in the Pabbi Hills for want of funds. As a result of the recommendations of the Erosion Committee the Punjab Government appointed a special officer to experiment in *Chh* training and reclamation work in Hoshiarpur and Ambala districts.

To stabilise shifting sand, some work was done in Madras where *Casuarina* plantations have been raised along the sea coast in Godaveri Lower and Nellore, and Palmyra plantations have been raised in the Kudiramoliteri forests of Tinnevely.

9. *Plantations*.—The expenditure on plantations including tending averaged 9 lakhs per annum during the period under review.

The area under plantations in the Punjab rose from 19,894 acres in the previous quinquennium to 30,292 acres in the period under review.

In Assam particular attention has been given to the raising of soft woods used in the manufacture of matches and packing cases.

In the United Provinces artificial regeneration by *taungya* is becoming increasingly important and large areas are being stocked with more important species after clearfelling.

In the Andamans regeneration of deciduous forests by natural means has replaced the artificial methods of raising plantations.

The Government of India appointed a Committee consisting of the Inspector General of Forests, Chief Conservator of Forests, Bombay, and an expert Forest Officer from the Punjab to inspect the proposed areas for irrigated plantation in Sind. The Committee visited the locality in January 1935 and recommended 6,500 acres for conversion into irrigated plantations.

10. *Communications and Buildings*.—The expenditure under this head in the year 1928-29 was 37 lakhs and rose to above 75 lakhs in 1929-30, the opening year of the present quinquennium. Owing to the severe trade depression and the need for economy the expenditure under this head gradually fell away to 14 lakhs as work was confined to the barest minimum for the upkeep of roads and the repairs of buildings. All expenditure on new work was strictly limited to what was absolutely necessary for revenue purposes.

Exploitation and Commercial development.

11. *Outturn of Forest Produce*.—The average annual outturn of timber and fuel from all sources during the 5-year period under review was 322,000,000 cubic feet against an average of 347,800,000 cubic feet in the previous quinquennium. The decrease is due to the trade depression and economic causes. The outturn in the year 1929-30 was 350,200,000 cubic feet and this fell to 305,900,000 cubic feet in 1931-32 but rose again to 317,300,000 cubic feet in 1933-34 indicating a gradual improvement in the timber trade.

The trade in bamboos also suffered from the depression. The average value on this account was 19 lakhs in the previous quinquennium as compared with the average of 16 lakhs in the period under review. The value, however, was Rs. 18 lakhs and 14 lakhs in the years 1929-30 and 1933-34, the first and the last years of the present quinquennium respectively.

There was also a decrease in the value of grazing and extraction of fodder due to the general depression. The position in 1933-34 showed a definite improvement over the figures for 1931-32 and 1932-33.

The demand for other minor forest products was also poor during the quinquennium; the value being Rs. 33 lakhs in 1933-34 as compared with 60 lakhs in 1929-30. The figures for 1933-34 were, however, an improvement over 1932-33.

12. *Exploitation.*—In Madras mechanical exploitation of the evergreen forests of the West Coast, the portable saw mills and the seasoning plant established during the previous quinquennium for the fuller utilisation of the timbers hitherto unknown were found unremunerative and had to be closed down. Experience has shown that mechanical exploitation is not to be compared with indigenous methods which rely upon elephant power, floating and carting.

In the Andamans where extraction in the interior of the island with animal power was considered impossible mechanical extraction under the supervision of a logging engineer was sanctioned as a trial. After logging 1 square mile the skidder was found to be unprofitable and its use discontinued.

During the period under review departmental exploitation was considerably restricted and the sale of standing trees to contractors was more generally adopted as the most suitable method of disposing of forest produce.

In Assam the manufacture of tea boxes of plywood was continued by the mills. Considerable quantities of softwoods were exported for the manufacture of matches and packing cases.

In Burma more than one million teak trees were girdled during the 5-year period.

In Bombay the extraction of timber by Fordson skidding outfits was continued. Six saw mills worked during the period; 3 of them were closed for want of work and a new one was erected. All the mills shew good profits.

The Allapilli saw mill in the Central Provinces was reconstructed. The result has been an increase in the outturn of about 15,000 cubic feet per annum.

Agencies for the sale of timber.

13. The only agents with which the Government of India dealt were Messrs. Martin and Co. of Calcutta, who have been working as their agents for the sale of Andamans timber in the Calcutta market since 1st November 1918. On the expiry of the agency contract with the firm on the 31st March 1934 the agreement was renewed for another two years.

The appointment of Timber Adviser to the High Commissioner for India in connection with the trade in the Andamans and other Indian timbers in the London market was created in 1927 for one year and has since been extended from time to time. The present extension expires on the 31st March 1936.

The following figures compare the sale of timber from the Andamans during the present and the previous quinquennia :—

	Logs.	Squares.	Scantlings.	Total.
	Tons.	Tons.	Tons.	Tons.
Present quinquennium .	85,660	10,840	39,891	136,391
Previous quinquennium .	21,037	16,444	39,279	76,760

The increase under logs was due to purchases by the local match factory; the decrease under squares was chiefly due to the financial depression during which the Indian railways have curtailed purchases. The position of the trade in scantlings was satisfactory except for the prices which were seriously affected by the depression. Considerable competition has developed in the soft wood trade owing to the import of timbers from Japan at very low prices.

Forest Management.

14. *Working Plans.*—The percentage of the total forest area in British India which is now under working plans has risen from 57 per cent. in 1929-30, the beginning of the quinquennium, to 63·4 per cent. in 1933-34. The area

under working plans in 1928-29, the last year of the previous quinquennium, was 73,000 square miles against 83,000 square miles at the close of the present review. The principal additions were:—Burma 6,000 square miles; Assam 1,300 square miles and Madras 2,600 square miles.

15. *Panchayat and Forest Village Systems.*—At the end of the present 5-year period under review the total area under Panchayat management in Madras was 3,270 square miles as against 3,400 square miles in March 1929, the decrease being due to the inability of the people to form panchayats. It is as yet premature to say that management by Panchayat is satisfactory.

In Assam the policy of forming village forests was abandoned and those created were cancelled.

In the United Provinces there are now 20,000 acres of Panchayat forests, a considerable portion of which consists of plantations made by the villagers themselves at their own expense. The Kumaun Panchayat forest movement was initiated by the Forest department but is controlled by the Revenue department.

Financial Results.

16. The following statement shows the growth of forests revenue and expenditure during the past 70 years—the figures in all cases being the annual averages of the quinquennial periods:—

Quinquennial period.	Gross revenue (Average per annum).	Expenditure (Average per annum).	Surplus (Average per annum).	Percentage of surplus to gross revenue
	Lakhs.	Lakhs.	Lakhs.	
1864-65 to 1868-69	37.1	23.8	13.6	36.4
1869-70 to 1873-74	50.3	39.3	17.0	30.2
1874-75 to 1878-79	60.6	45.8	20.8	31.2
1879-80 to 1883-84	88.2	56.1	32.1	36.4
1884-85 to 1888-89	116.7	74.3	42.4	36.3
1889-90 to 1893-94	159.5	86.0	73.5	46.1
1894-95 to 1898-99	177.2	98.0	70.2	41.7
1899-00 to 1903-04	106.6	112.7	83.9	42.7
1904-05 to 1908-09	237.0	141.0	116.0	45.1
1909-10 to 1913-14	206.0	163.7	132.3	44.7
1914-15 to 1918-19	371.3	211.1	160.0	43.0
1919-20 to 1923-24	551.7	367.1	184.6	33.5
1924-25 to 1928-29	595.4	351.1	244.2	40.9
1929-30 to 1933-34	441.5	316.1	125.4	28.4

The continued fall in prices has further reduced the surplus, which stands somewhere about the prewar figures. If it is stabilised at this figure in the following quinquennium it will only indicate that we are returning towards more normal conditions.

The revenue of Burma (including Federated Shan States) alone has dropped from 2 crores in 1929-30 to 88 lakhs in 1933-34. In addition to the economic depression, this decrease may partly be attributed to the increased use of substitutes in place of hardwoods.

With the fall in revenue, the Forest department had also to curtail expenditure and is effecting all possible measures for economy. The policy of selling standing trees has been resorted to on a large scale and departmental operations restricted to the minimum; cadres have also been reduced considerably in most provinces.

Research.

17. *General*.—Research work which in the previous 5-year review was reported to be making great progress could not escape the effects of the world wide trade depression and the consequent financial difficulties of the Central and Provincial Governments. The work of the Forest Research Institute had to be curtailed and the staff reduced. In spite of this it has been possible to continue silvicultural research work both at Dehra and in the provinces. In other branches much useful work has been done which is dealt with more fully in the succeeding paragraphs.

A list of the publications issued by the Forest Research Institute during the 5-year period under review is given at the end of this report.

18. *Silviculture*.—The difficult financial position during most of the 5-year period resulted in a general curtailment of silvicultural work particularly as regards the relatively expensive departmental plantations and tending operations. Research work, however, was vigorously prosecuted in nearly all provinces, and despite the hampering effect of rigid economy, marked progress can be recorded in several directions.

Attention continued to be given to the regeneration both natural and artificial of tropical evergreen forests, valuable results being reported from Bengal, Assam and the Andamans. In Bengal, it has been demonstrated that *taungya* plantations with such representative species as *Dipterocarpus turbinatus* (*garjan*) and *Artocarpus chaplasha* are a practical proposition provided a soil cover crop is introduced at an early stage: more slowly growing species such as *Dichopsis* can probably be introduced in mixture, and there are indications that nurse crop of quick growing deciduous trees such as *Gmelina* may be useful. In the Andamans, excellent natural regeneration of *Terminalias* and other semi-deciduous species has been obtained by clearing the undergrowth, burning and thorough weeding, whilst in Assam, *Terminalia myriocarpa* has similarly been regenerated with some aid by sowing. In several places, the method of regenerating these forests by lightening the canopy from below upwards at a rate varying with local conditions, and sometimes with some aid by dibbling seed of desirable species (notably *Dipterocarpus* spp.) has been further established as capable of giving satisfactory results.

An important outstanding problem appears to have been solved in Madras in the successful restocking of second rotation teak plantations. The difficulties experienced there and elsewhere with pure plantations have directed attention to the need of a much wider knowledge of the technique of raising mixed plantations and a good deal of work in this field has been initiated.

The expansion of co-operative work between the Research Institute and the Provinces and Indian States has been a feature of the quinquennium, three major investigations having been taken up, i.e., the regeneration and management of sal forests (6 Provinces), the influence of seed origin for teak (8 Provinces and States), and bamboo management (5 Provinces). This has been associated with the steady improvement in experimental technique throughout the period.

The effect of thinning treatment on the total volume production and the growth of trees is a matter to which more and more attention is being directed with the rapid exhaustion of the older stock in all accessible forests. Yield tables were made for deodar under four intensities of thinning, representing the results of the first statistical study in this field in India. Research is now being concentrated on the growth statistics of unevenaged crops.

The Silvicultural Conference held in March 1929 provided a programme of research which has taken five years to deal with and a fourth conference was convened for October 1934. There have been two meetings of the Union of

Forest Research Stations at Stockholm (1929), and Nancy (1932), at both of which India was represented. The Silviculturist made a special tour of Forest Research Institutes in Europe in 1931 to collect the latest information on research methods and found that India was behind them only in the investigation of soil problems.

19. *Forest Economy*.—This Branch, which deals with such subjects as timber testing, wood technology, seasoning, wood preservation, woodworking, minor forest products, and paper pulp, has several important developments to record since the last report in 1928.

The Timber Testing Section has now tested 148 species of Indian woods under its ordinary strength test programme, and 87 species under the special programme for constructional woods. This work is of the utmost value to engineers and timber users generally throughout India, and has resulted in several instances in Indian woods being given preference over imported woods. One of the chief reasons why imported woods were previously preferred was the lack of information on the strength of Indian timbers. This drawback no longer exists and scientific data on practically all the commercial Indian timbers are now available for those requiring them.

Wood Technology has made great progress during the past few years, and timber users throughout India are recognising more and more the importance of obtaining scientific information about the woods they are handling. The number of enquiries received asking for advice on the suitability of timbers for various purposes, the cause of unusual defects such as extreme hardness, softness or weakness, and requests for fungus examination, now average over 300 per annum, while the number of requests for identification of wood samples have increased from about 60 in 1928 to 400 in 1934. An important little booklet entitled "The Identification of Important Indian Sleeper Woods" was published in 1932 and has proved of considerable value to railway engineers and others dealing in sleeper woods.

The Seasoning Section distinguished itself by developing a new technique for kiln seasoning. This new process has halved the time formerly taken for kiln drying and only costs about a third as much as former processes, while the timber comes out in better condition than it did formerly. There are now several commercial kiln seasoning plants in India and with this cheaper and better technique it is possible that there will be further additions to the number during the next few years. Air-seasoning also has made advances, and an air-seasoning Manual was published in 1934. This Manual is not only a general treatise on air-drying but also deals specifically with the air-seasoning of 120 Indian woods.

The Wood Preservation Section has done some exceedingly useful work in having evolved a method of fixing arsenic and copper in wood, thereby giving it a very much prolonged life against the ravages of termites, fungi and wood borers. The new process, known as the Ascu process, is a development of the Falkamesam process which aimed at fixing arsenic only in the wood. As copper is very toxic to wood destroying agencies, the combination is doubly effective. A new technique for treating heartwood and sapwood railway sleepers together at the same time has also reacted to the benefit of the Forest department and the Railways, by allowing sapwood to be included in sleeper specifications and at the same time cheapening the cost of treatment. Mr. Kamesam, who developed this new technique, was awarded the Viceroy's Prize of 1933 for his treatise on the subject.

In the Woodworking Section considerable advance has been made in the study of Indian woods for veneers and plywood, and a preliminary treatise on the subject was published in 1934. Several Indian woods have been found suitable for the manufacture of plywood tea boxes. The study of glues for Indian conditions has also taken up a considerable amount of time, and as a result of this work the Civil Aviation department has issued instructions to its ground engineers that no licence will be issued unless the applicant has passed the gluing test supervised by the Forest Research Institute. It is gratifying to note that the standard of gluing has, as a result of this, improved considerably.

during the past year or two. This has the effect of making the repair work of aircraft more dependable and flying safer.

The Minor Forest Products Section has been occupied chiefly with the development of a portable charcoal kiln suitable for Indian conditions and with the making of briquettes from charcoal dust combined with a suitable binder. An entirely new design of charcoal kiln has been evolved and is now available for those interested in this subject. One of the chief assets of this new kiln is that it can be used without water, a most important matter in those districts where charcoal burning is restricted to 3 or 4 months in a year on account of a lack of water. An intensive study of the more important forest drug producing plants has also been inaugurated, and should lead to an improvement in the cultivation, yield, and quality of these important products.

The Paper Pulp Section can record the completion of Mr Raitt's work on the utilisation of bamboos for paper pulp. The Section is now engaged in improving pulp technique and in evolving a cellulose from bamboo suitable for artificial silk manufacture. Success appears to be in sight but a little more work is necessary to make certain that the process is a commercial possibility. Other raw materials such as forest grasses, flax waste, and bagasse have also received their quota of attention, and those interested have been kept in touch with the progress made.

In conclusion, it can be definitely recorded that utilisation in forest products has made distinct advances in the past 5 years, and it has been very noticeable that both Government departments and the public have yearly taken more and more advantage of the valuable research work being done by this Branch of the Forest Research Institute.

20. *Forest Botany*.—During the period under review the systematic study of some genera of important timber trees has been undertaken and completed and much help has been given to Forest Officers and others in India and Burma in the identification of numerous plant specimens and in supplying technical advice in botanical matters. The herbarium at the Central Institute has been added to considerably from Indian collections and collections obtained by exchange with other botanical institutions. As usual considerable quantities of seed have been supplied to enquirers and institutions in various parts of the world. Tours have been made by the Forest Botanist and his staff in connection with the investigation of botanical problems, the collection of plant specimens and the identification of trees of forest importance. Planting in the arboretum at New Forest has been continued and many new and interesting plants established; a new botanical garden has been started which is intended to be used for technical, educational and ornamental purposes.

Mycology.—The problem of shisham mortality in the Punjab plantations and in the forests of the United Provinces has been investigated. Shisham trees have been inoculated with a fungus isolated from diseased and dying trees and also with cultures of *Polyporaceae*, fungi which are generally associated with dead trees, and the results watched. Good progress has been made in the investigation of various parasitic rusts as a result of which *Peridermium* on the stems of Chir pine has been co-related with a rust on *Sweetia* and a *Peridermium* on the blue pine with a rust on *Ribes* while similar investigations on the needle diseases of other conifers have been undertaken. Studies relating to other wood rotting and parasitic fungi which infest important timber trees have also been undertaken and numerous inoculation experiments done on Pine and Deodar in the Chakrata forests.

21. *Forest Entomology*.—In entomological research the quinquennium has been marked by successful results in several of the major projects planned by Dr. Beeson for investigation on broad lines over a prolonged period.

Time has shown that the control measures devised for the sal borer, *Hoplocerambyx*, are effective, practical and inexpensive. They are adopted as standard measures, not only in the Central Provinces where they were first enforced in the great epidemic of 1927, but in all sal forests where this pest is a danger. The virtual elimination of *Hoplocerambyx* by these methods has raised the importance of the secondary borers of sal to a stage at which it is advisable to apply remedies. Damage by secondary borers has been studied and remedial

measures have been instituted that are at once effective and profitable. The comparative importance of insects and of other factors in the dying-off of sal can now be correctly estimated.

An extensive survey of the conditions governing the defoliation of teak has been conducted in various parts of India, but mainly in Nilambur. The complicated life-histories of the primary and secondary defoliators and their local divergences from the normal have been worked out. The host of associated natural enemies—predators and parasites—has been the subject of many careful breeding experiments and of taxonomic work by specialists. Dr. Beeson's scheme for the prevention of defoliation rejects entirely the use of insecticides and direct attack, and relies on biological control by the maintenance in a plantation of optimum conditions for natural enemies which is ensured by the retention of subsidiary plant growth.

In connection with the spike disease of sandal a comprehensive survey of the insect fauna of this tree was undertaken in Madras and Coorg for the identification of which the assistance of 35 specialists was secured. Out of these thousands of species a few were isolated as probable vectors of the disease and experimental evidence was obtained that incriminated a jassid bug as the primary agent of infection. At the time when unassailable proofs of transmission of the disease by an insect were being collected the special grant subsidising the research was terminated. Thirty-three publications were issued on this investigation.

Insects attacking the living culms as well as cut bamboos have been studied. Investigation of the life-histories of *Dinoderus* and the effect of the season of felling (and incidentally of the phases of the moon) showed that efficient protection is obtainable by improved methods of extraction and storage, as well as by antiseptic treatment. It was demonstrated that specifications for tent and telephone poles, lance staves and lathis are unnecessarily strict and can be modified with profit.

Borers of newly felled trees and of converted and manufactured timber, particularly pinhole and shothole borers, *Lyctus* and powder-post beetles, have received considerable attention. The problem of protecting the log remains a local one in view of the great diversity of India's borer fauna. In mills and factories, on the other hand, general hygienic principles are more universally applicable and have been successfully introduced to departmental and private concerns.

Seventy-four publications were issued by the Entomological Branch during the period, including Mr. Gardner's valuable reports on the immature stages of Indian insects.

22. *Chemistry*.—During the period of 5 years under review, apart from routine investigations, considerable progress has been made in the chemistry and utilisation of various minor forest products. Some of these have led to the development of a valuable trade in herbs and particular mention may be made of *Artemisias*, *Ephedras*, *Derris* and *Adhatoda vasica*. Indian species of *Artemisias* were, at one time, regarded as useless for the extraction of the valuable drug santonine; but the work carried on in this branch showed that some of the Indian species are as rich in santonine content as Russian species; which at one time held the monopoly. This had led to the development of a considerable export trade and establishment of a factory for the extraction of santonine in Kashmir. The same can be claimed for Indian *Ephedras* which only a few years back were practically unknown in foreign markets. Apart from the above, the isolation and chemical study of the active principles of many other indigenous drugs was taken up, especially *Actinodaphne hookeri*, *Adhatoda vasica*, *Putranjiva roxburghii* and *Aconitum chasmanthum*.

Oil bearing seeds of many forest trees have also been studied and a few items of economical value have been discovered; for instance an indigenous and rich source of lauric acid in the fats of the *Lauraceæ*. The use of Lauric Acid and its derivatives as valuable detergents is now coming into prominence and already enquiries have been received for the collection of large quantities of berries.

Mention may also be made of the preparation, development and large scale manufacture of "Fridera" a composition for reconditioning the abraded spike holes in wooden sleepers. This composition has been patented and is now being used on many of the Indian Railways. The results of the above investigations have been embodied in 30 odd papers published in scientific journals and departmental publications.

Forestry Committee.

23. The recommendations of the Forestry Committee referred to in the last quinquennial review were duly considered by the Government of India and their decision on the various recommendations are detailed below :—

- (1) *Constitution of an Advisory Board.*—Owing to the prevailing financial stringency the constitution of the Advisory Board for the Forest Research Institute, Dehra Dun, was postponed and the Board of Forestry was allowed to continue.
- (2) *Enhancement of the powers of control of the President, Forest Research Institute.*—Powers of the Inspector General of Forests and President, Forest Research Institute and College, Dehra Dun, to sanction capital expenditure under Article 69(V) of the Forest Department Code (7th Edition) were raised from Rs. 5,000 to 10,000 and, subject to budget provision, he was also empowered to sanction the creation of temporary posts both at the Forest Research Institute and in his own office on pay not exceeding Rs. 100 per mensem.
- (3) *Appointment of a Director of Research.*—The consideration of the question of appointing a Director of Research was postponed for both financial reasons and constitutional considerations.
- (4) *Appointment of a Personal Assistant to the President.*—The recommendation to create the post of a Personal Assistant to the President of the Forest Research Institute has been given effect to.
- (5) *Centralisation of Branch Offices.*—The recommendation was given effect to and all Branch Offices were centralised except the office of the Forest Economist which was allowed to function separately.
- (6) *Methods of recruitment of Sectional officers and subordinates.*—As regards improvements in methods of recruitment and training of staff for scientific research at the Forest Research Institute suggested by the Committee the Government of India after careful consideration decided not to prescribe any general rule. The detailed recommendations of the Committee in this respect were however carefully considered and decisions recorded.
- (7) *Necessity for training officers abroad.*—The Government of India already have a definite policy for sending their officers for special training abroad whenever it is necessary. As this policy has so far worked satisfactorily it was decided not to make any modifications in it.

Maintenance of touch with Forest Officers in Provinces and Railways, etc.—As the Economic Branch of the Forest Research Institute is already in close touch with the Railways no further action in that direction was considered necessary.

The suggestions made by the Forestry Committee that provincial silviculturists and Working-plan Conservators should visit Dehra Dun at least once in every two years and that provincial officers even if they are not definitely engaged in research work should be encouraged to visit the Institute in order to gain some idea of the scope of work done at Dehra Dun were commended to local Governments for consideration and accepted by most of them. At the meeting of the Board of Forestry held in October 1934, it was

stressed that officers of the Forest Research Institute should also be afforded full facilities for touring in the provinces with a view to gaining first hand experience of local conditions and disseminating information among the administrative and executive staff.

Protection of the Fauna of the Country.

24. A greater interest was evinced in the protection of the Fauna of British India and Burma during the five-year period in various provinces.

In Bengal the Rhinoceros and Elephant Preservation Acts of 1932 were promulgated. In Assam the Rhinoceros is effectively protected.

In the Punjab rules under the Wild Birds and Wild Animals Protection Act, 1933, have been framed and brought into force. A bill to establish a permanent sanctuary in the United Provinces is under consideration in the local legislature.

The aggregate area of game sanctuaries in Burma and the Federated Shan States was 516 square miles at the close of the present period of review. Owing to financial stringency the post of Game Warden was abolished but substantial progress in the control of firearms and ammunition was effected.

In Madras radical changes in shooting rules are under the consideration of the local Government. A bill to provide protection to wild animals is also being introduced in the Central Provinces' legislature.

As an outcome of the agreements concluded at the International Conference for the protection of the Fauna and Flora of Africa which was held in London in November 1933, the Government of India convened a Conference in January 1935 in which all provinces of India and principal Indian States participated. The Conference among others considered the following important items :—

(1) The present position of the Fauna and Flora of India with a view to consider their protection in and outside forests.

(2) Inoculation of village cattle in the vicinity of game preserves.

(3) Measures to restrict the possession of weapons.

A draft convention has accordingly been drawn up and will be circulated for criticisms.

On the whole there is greater awakening both on the part of the general public and the Government to this very important question and considerable progress may be looked forward in the near future.

C. G. TREVOR,

Inspector-General of Forests

to the Government of India.

NEW FOREST, DEHRA DUN ;

The 27th April, 1935.

*List of Forest Publications issued by the Forest Research Institute, Dehra Dun,
during the 5-year period ending 31st March 1934.*

1.—BULLETINS (NEW SERIES).

No.		Price (exclusive of pack- ing, postage, etc.)		
		Rs.	A.	P.
71.	A List of Trade Names of Indian Timbers	0	5	0
72.	Instructions for the Operation of Timber Seasoning Kilns, by S. N. Kapur.	1	12	0
73.	The Herbarium of the Forest Research Institute, by R. N. Parker.	0	5	0
75.	Preservation of Indian Timbers—the Open Tank Process, by F. J. Popham.	0	10	0
76.	List of Plants collected in West Nepal	0	4	0
77.	The Identification of Important Indian Sleeper Woods, by K. A. Chowdhury.	3	0	0
78.	The Problem of the Pure Teak Plantation, by H. G. Champion	0	12	0
79.	Calorific Values of some Indian Woods, by S. Krishna and S. Ramaswami.	0	12	0
80.	List of Trees and Shrubs for the Kashmir and Jammu Forest Circles, by W. J. Lambert.	0	12	0
81.	Testing and Selection of Commercial Wood Preservatives, by S. Kamesam.	0	14	0
82.	The Measurement of Standing Sample Trees, by H. G. Champion.	1	2	0
83.	Provisional Yield Table for <i>Quercus incana</i> (Banj or Ban-oak) by H. G. Champion and I. D. Mahendru.	0	14	0
84.	The Identification of the Commercial Timbers of the Punjab, by K. A. Chowdhury.	3	0	0
85.	A Record of the Results obtained with Experimental Treated Sleepers laid in the Indian Railways between 1911 and 1916, by S. Kamesam.	0	8	0
86.	Cold Weather Planting in Northern India, by H. G. Champion.	0	9	0

2.—RECORDS.

Vol. XIII, Part VIII.	Volume and Outturn Tables for Blue Pine (<i>Pinus excelsa</i> , Wall), by H. G. Champion, Ishwar Das Mahendru and Parma Nand Suri.	1	2	0
„ „ „	IX.—Commercial Timber (Katha) and Heart- wood Volume Tables for <i>Khar</i> (<i>Acacia catechu</i>) in North India, by the same authors.	0	14	0
„ „ „	X.—Yield Tables for Blue Pine (<i>Pinus excelsa</i> , Wall), by the same authors.	1	9	0
„ XIV, „	I.—The Burma Bamboo Pulp Survey, by W. Raitt.	2	10	0
„ „ „	II.—Denudation of the Punjab Hills, by B. O. Coventry.	1	4	0
„ „ „	III.—Investigations on the Infestations of <i>Peridermium complanatum</i> , Barclay, on the needles, and of <i>Peridermium himalayense</i> , on the stem of <i>Pinus longifolia</i> , Roxb., by K. D. Bagehee.	2	12	0
„ „ „	IV.—Immature Stages of Indian Coleoptera (6), by J. C. M. Gardner.	1	2	0

2.—RECORDS—*contd.*

			PRICE (exclusive of pack- ing, postage, etc.)		
			Rs.	A.	P.
Vol. XIV, Part V.	—On some New Indian Coleoptera and Hemiptera—The Indian Species of Palorus Muls, and some Associated Beetles, by K. G. Blair. Part VI—Two New Species of Coleoptera from India, by E. Fleutiaux. Part VII.—Some New Indian Cerambycidae, by J. C. M. Gardner. Part VIII.—Some Records of Indo-Malayan Psyllidae, by F. Laing.		1	2	0'
" " "	IX.—On the Genus Xyleborus—New Xyleborus Arlenaus Indien, by Hans Eggers. Part X.—The Biology of the Genus Xyleborus, with more New Species, by C. F. C. Beeson.		1	6	0
" " "	XI.—On some Indian Coleoptera.—A New Genus and New Species of Melasidae and a New Species of Elateridae, by E. Fleutiaux. Part XII.—A New Genus and two New Species of Longhorn Beetles from India, by W. S. Fisher. Part XIII.—Immature Stages of Indian Coleoptera (7), by J. C. M. Gardner. Part XIV.—Three New Species of Lyridae, by R. Kleine		1	0	0'
" XV, "	I.—Classification of Thinnings		0	14	0'
" " "	II.—A Glossary of Technical Terms for use in Indian Forestry.		0	6	0'
" " "	III.—Standard, Commercial and Heartwood Volume Tables (Factory Working) for <i>Khair</i> (<i>Acacia catechu</i>) in North India by H. G. Champion and Ishwar Das Mahendru.		0	5	0
" " "	IV.—Volume Tables and Diameter Growth Curve for <i>Semal</i> (<i>Bombax malabaricum</i>), by Ishwar Das Mahendru.		0	9	0
" " "	V.—Provisional Volume Tables and Diameter Growth Curve for <i>Semal</i> (<i>Bombax malabaricum</i>) in the Central Provinces, by the same author.		0	2	0
" " "	VI.—Branch Smallwood Tables for <i>Shorea robusta</i> , <i>Tectona grandis</i> , <i>Cedrus deodara</i> , <i>Pinus excelsa</i> and <i>P. longifolia</i> ; compiled in the Statistical Section, F. R. I.		0	3	0
" " "	VII.—Provisional Volume Tables and Diameter Growth Curves for <i>Holoptelia integrifolia</i> (<i>Kanju</i>) and <i>Trewia nudiflora</i> (<i>gutel</i>), by Ishwar Das Mahendru.		0	12	0
" " "	VIII.—Multiple Yield Tables for Deodar, by H. G. Champion and I. D. Mahendru.		4	8	0
" XVI, "	I.—Illustrations of Indian Forest Plants—Part II—Five Species of <i>Dipterocarpus</i> , by R. N. Parker.		1	0	0
" " "	II.—Indian Ephedras, by S. Krishna and T. P. Ghosh.		1	14	0'
" " "	III.—Immature Stages of Indian Coleoptera (8), by J. C. M. Gardner.		1	2	0
" " "	IV.—Immature Stages of Indian Coleoptera (9), by J. C. M. Gardner.		1	2	0

2.—RECORDS—*contd.*

		PRICE (exclusive of packing, postage, etc.)		
		Rs.	A.	P.
Vol. XVI, Part V.	Investigations on the Seed and Seedlings of <i>Shorea robusta</i> , by H. G. Champion and B. D. Pant.	1	6	0
" "	VI.—The Use of Stumps (Root and Shoot Cuttings) in Artificial Regeneration, by the same authors.	2	4	0
" "	VII.—Notes on <i>Pinus longifolia</i> , Roxb.—The Plantations in Dehra Dun and the Central Provinces and Miscellaneous Seed Studies, by the same authors.	1	10	0
" "	VIII.—New Indian Curculionidae (Col.), by Sir Guy A. K. Marshall.	0	6	0
" "	IX.—The Life-History and Control of <i>Celosterna scabrior</i> (Col. Cerambycidae), by C.F. C. Beeson.	0	8	0
" "	X.—New Species of <i>Exocentrus</i> Mulsant from India, by W. S. Fisher.	0	7	0
" "	XI.—Immature Stages of Indian Coleoptera (10) Anthribidae, by J. C. M. Gardner.	0	5	0
" XVII, "	I.—Entomological Investigations on the Spike Disease of Sandal (<i>Santalum album</i>), by Cedric Dover.	1	0	0
" "	II.—Treatment of Babul (<i>Acacia arabica</i>), by S. A. Valid.	1	14	0
" "	III.—Immature Stages of Indian Coleoptera (11), (<i>Platypodidae</i>), by J. C. M. Gardner.	0	9	0
" "	IV.—The Sutelj Deodar—Its Ecology and Timber production, by R. M. Gorrie.	3	2	0
" "	V.—The Importance of the Origin of Seed used in Forestry, by H. G. Champion.	2	12	0
" "	VI.—New Cerambycidae from India (Coleoptera), by W. S. Fisher.	0	2	0
" "	VII.—Interim Report on Work under Project No. 2, Strength Tests of Timber in Structural Sizes, with Test Results up to 1932, by L. N. Seaman.	1	0	0
" "	VIII.—Immature Stages of Indian Coleoptera (12) (Carabidae), by J. C. M. Gardner.	0	9	0
" "	IX.—Entomological Investigations on the Spike Disease of Sandal (2) Bostrychidae, Platypodidae and Scolytidae, by C. F. C. Beeson.	0	4	0
" "	X.—Entomological Investigations on the Spike Disease of Sandal (3) Membracidae (Homopt.), by W. D. Funkhouser.	0	6	0
" XVIII, "	I.—Entomological Investigations on the Spike Disease of Sandal (4) Cercopidae (Homopt.), by V. Lallemand.	0	2	0
" "	II.—Entomological Investigations on the Spike Disease of Sandal (5) Brentidae and Lyceidae (Col.), by R. Kleino.	0	2	0
" "	III.—Entomological Investigations on the Spike Disease of Sandal (6) Anthribidae, by Karl Jödan.	0	3	0
" " "	IV.—Entomological Investigations on the Spike Disease of Sandal (7) The Genus <i>Exocentrus</i> (Cerambycidae), by W. S. Fisher.	0	2	0

2.—RECORDS—*concl'd.*

			PRICE (exclusive of packing, postage, etc.)		
			Rs.	A.	P.
Vol. XVIII Part V.	Entomological Investigations on the Spike Disease of Sandal (8) Canabidae, by H. E. Andrewes.		0	7	0
" " "	VI.—Entomological Investigations on the Spike Disease of Sandal (9) Neuroptera, by Dr. Nathan Banks.		0	2	0
" " "	VII.—Entomological Investigations on the Spike Disease of Sandal (10) Melasidae and Elateridae, by E. Fleutiaux.		0	5	0
" " "	VIII.—Entomological Investigations on the Spike Disease of Sandal (11) Fulgoridae, (Homopt) by N. C. Chatterjee.		0	12	0
" " "	IX.—Immature Stages of Indian Coleoptera (13) (Bostichidae), by J. C. M. Gardner.		1	0	0
" " "	X.—Third Interim Report on Project No 1.—The Physical and Mechanical Properties of Woods grown in India, by V. D. Limaye.		4	4	0
" " "	XI.—Investigations on the Infestation of <i>Peridermium himalayense</i> on <i>Pinus longifolia</i> , Part II by K. D. Bagchee.		4	4	0
" " "	XII.—A Stand Table for Sal (<i>Shorea robusta</i>) Evenaged High Forest, by I. D. Mahendru.		0	5	0
" " "	XIII.—Entomological Investigations on the Spike Disease of Sandal The Life-history and morphology of <i>Eurybrachys tomentosa</i> Fabi (12) Fulgoridae (Homopt.), by N. C. Chatterjee.		0	12	0
" XIX,	I.—New Thysanoptera from India, by Dudley Moulton.		0	6	0
" " "	II.—Entomological Investigations on the Spike Disease of Sandal (13) Membracidae and Cercopidae (Homopt.), by N. C. Chatterjee and M. Bose.		0	4	0
" " "	III.—Regeneration and Management of Sal, by H. G. Champion.		5	0	0
" " "	IV.—Entomological Investigations on the Spike Disease of Sandal (14) Jassidae (Homop), by H. S. Pruthi.		1	0	0
" " "	V.—Entomological Investigations on the Spike Disease of Sandal (15) Cicindelidae (Col) and Supplementary Data on Neuroptera and Elateridae (Col.), by N. C. Chatterjee.		0	5	0
" " "	VI.—Entomological Investigations on the Spike Disease of Sandal (16) Coccinellidae (Col), by B. Koishefsky.		0	6	0
" " "	VII.—Entomological Investigations on the Spike Disease of Sandal (17) Coccinellidae (Col), Supplementary Data, by N. C. Chatterjee and M. Bose.		0	5	0
" " "	VIII.—Entomological Investigations on the Spike Disease of Sandal (18) Fulgoridae (Homopt), by N. C. Chatterjee and M. Bose.		0	5	0

3.—MANUALS

Manual of Botany, by R. S. Hole (Reprinted)			3	8	0
Silvicultural Research Manual for use in India, Volume I, (Experimental Manual), by H. G. Champion.			8	2	0
Silvicultural Research Manual for use in India, Volume II, (Statistical Code), by H. G. Champion and I. D. Mahendru.			12	10	0

4.—OTHER PUBLICATIONS.

	PRICE (exclusive of pack- ing, postage, etc.)		
	Rs.	A.	P.
Forest College, Dehra Dun, Calendar, 1931	5	2	0
The Progress Report of Forest Research Work in India, 1928-29 .	4	6	0
The " " " " " " " " 1929-30 .	4	6	0
The " " " " " " " " 1930-31 .	6	10	0
The Progress of Forest Research in India, 1931-32, Part I.—The Forest Research Institute.	2	0	0
The Progress of Forest Research in India, 1931-32, Part II.—Pro- vincial Reports.	2	14	0
The Progress of Forest Research in India, 1932-33, Part I.—The Forest Research Institute.	2	0	0
The Progress of Forest Research in India, 1932-33, Part II.—Pro- vincial Reports.	2	0	0
Progress Report of the Imperial Forest College, Dehra Dun, for 1928-29.	1	6	0
" " " " " " " " " 1929-30.	1	8	0
" " " " " " " " " 1930-31.	1	12	0
Progress Report of the Indian Forest Service and Forest Rangers Colleges, Dehra Dun, for 1931-32.	1	0	0
Progress Report of the Forest College, Dehra Dun, for 1932-33 .	0	12	0
Annual Return of Statistics relating to Forest Administration in British India, for 1928-29.	10	0	0
Annual Return of Statistics relating to Forest Administration in British India, for 1929-30.	1	8	0
Annual Return of Statistics relating to Forest Administration in British India, for 1930-31.	1	11	0
Annual Return of Statistics relating to Forest Administration in British India, for 1931-32.	1	12	0
Annual Return of Statistics relating to Forest Administration in British India, for 1932-33.	1	14	0
Classified List of Officers of the Indian and Provincial Forest Services and of the Forest Engineering Service in India and Burma on 1st July 1929.	...		
Classified List of Officers of the Indian and Provincial Forest Services and of the Forest Engineering Service in India and Burma on 1st July 1930.	...		
Classified List of Officers of the Indian and Provincial Forest Services and of the Forest Engineering Service in India and Burma on 1st July 1931.	4	0	0
Classified List of Officers of the Indian and Provincial Forest Services and of the Forest Engineering Service in India and Burma on 1st July 1932.	4	10	0
Classified List of Officers of the Indian and Provincial Forest Services and of the Forest Engineering Service in India and Burma on 1st July 1933.	4	4	0
The Common Commercial Timbers of India and their Uses, by H. Trotter.	1	12	0
The Forest Research Institute Guide	0	3	0
Forty Trees Common in India, by R. N. Parker	3	6	0
Tables for use with Brandis' Hypsometer for measuring the height of Trees, etc., by F. B. Manson and H. H. Haines.	0	10	0

STATEMENT I.

Area of forests under the control of the Forest Department.

Province.		Forest area in square miles.				Percentage of forests to whole area of Province	Remarks.
Namo.	Area in square miles.	Reserved.	Protected.	Unclassed State.	Total.		
1	2	3	4	5	6	7	8
Bengal	75,857	6,469	705 [*]	3,445	10,639	14	
United Provinces . .	106,014	(a) 5,165	4	52	5,211	4.9	(a) Includes 1 square mile of leased forests.
Punjab	95,315	(b) 1,531	(c) 3,207	(d) 455	5,193	5.4	(b) Includes 316 square miles of leased forests but excludes 501 square miles of reserved forests not under the control of the Forest Department. (c) Excludes 63 square miles not under the control of the Forest Department.
Burma	162,000	31,533	...	91,638	123,371	67.4	(d) Excludes 235 square miles of civil forest and village forest lands
Federated Shan States .	60,615	3,169	...	56,358	59,527	98.2	
Bihar and Orissa . .	83,021	(e) 1,849	(f) 1,156	(g) 7	3,012	3.6	(e) Excludes 284 square miles belonging to private estates under their own management
Assam	55,445	6,630	...	14,818	21,448	38.7	(f) Excludes 694 square miles under the Civil Department and 102 square miles belonging to private owners. (g) Excludes 121 square miles belonging to private individuals under negotiation with a view to reservation or protection.
Central Provinces (including Berar).	99,957	(h) 19,430	...	...	19,430	19.4	(h) Excludes 174 square miles of leased forests.
Coorg	1,593	519	337 [†]	...	856	53.7	
North-West Frontier Province.	13,183	245	105	...	350	2.6	
Ajmer-Merwara	2,767	142	...	...	142	5.1	
Baluchistan (portions under British Administration)	54,223 [†]	316	...	472	788	1.5	
Andamans and Nicobar .	3,143 [†]	52	...	2,137	2,189	69.6	
Madras	142,218	15,652	(i) 621	...	16,273	11.4	(i) Represents reserved and leased lands.
Bombay (including Sind) .	123,247	13,317	868	...	(j) 14,185	11.5	(j) Includes 2,279 square miles of reserved and protected forests not under the management of the Forest Department.
Total 1933-34 .	1,099,503 [*]	106,079	7,003	169,582	282,664	25.7	
„ 1932-32 .	1,099,511 [*]	106,179	7,212	147,828	261,219	23.7	
„ 1931-32 .	1,101,902 [*]	105,960	6,632	133,189	245,831	22.3	
„ 1930-31 .	1,102,595 [*]	107,753	6,263	135,694	249,710	22.6	
„ 1929-30 .	1,108,486 [*]	107,953	6,298	135,503	249,754	22.6	

* Excluding Delhi Province and Pargana Maunpur.

† Figures taken from the Census Report of 1931.

1947-1948

1	2	3	4	5	6	7
...	11	10	...	...	...	...
...	1	1	...	...	...	...
...	...	7	...	...	...	...
...	57	471	...	...	...	...
...
...	...	57	...	...	...	...
...	84	100	...	...	...	...
...	1	3	...	...	...	...
...
...	...	20	...	...	...	...
...
...
...	...	59	...	...	...	...
...	17	187	110	Non-formal	...	...
...	9	47	4	10	...	...
...	100	200	100	57	...	...
...	65	1777	2-3	678	...	...
...	1/2	2075	400	21000	...	...
...	100	4541	52	10000	...	...
...	...	2000	2000	20000	...	...

STATEMENT III.

Demarcation and maintenance of boundaries.

Province.	Length of boundaries artificially demarcated during the year.	Length of previously existing boundaries repaired.	Length of previously existing boundaries not repaired.	Total length of artificially marked boundaries at the close of the year.	Length of boundaries not demarcated at the close of the year.	Length of natural boundaries not requiring artificial marks.	Total length of boundaries at the close of the year.	Expenditure on demarcation during the year.	
								On new work.	On repairs.
1	2	3	4	5	6	7	8	9	10
		Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Rs.	Rs.
Bengal	416	1,005	2,004	3,455	34	1,386	4,875	7,093	7,831
United Provinces . .	23	3,031	5,629	8,682	2	2,884	11,568	1,259	14,890
Punjab	"	1,730	7,114	8,844	1	1,268	10,113	"	6,819
Burma	308	1,852	15,502	17,752	226	4,000	21,978	4,218	13,515
Federated Shan States		73	1,260	1,333	"	590	1,923	"	671
Bihar and Orissa . .	3	3,672	1,192	4,867	"	358	5,225	9	3,921
Assam	24	1,542	1,219	2,765	99	2,592	5,476	"	8,010
Central Provinces . .	3	3,475	29,415	32,893	"	3,517	36,410	42	6,597
Coorg	"	24	445	469	"	67	536	"	763
North-West Frontier Province.	41	208	569	818	"	139	957	908	1,718
Ajmer	10	13	216	239	"	153	397	150	50
Baluchistan	28	432		460	"	77	537	"	149
Andamans	"	"	"	"	36	23	59	"	"
Madras	189	20,578	2,401	23,168	2,590	2,267	28,025	4,196	10,376
Bombay	106	24,876	13,016	37,993	45	2,627	40,670	1,519	2,327
1933-31	1,180	62,511	80,072	143,763	3,033	21,933	168,749	19,411	77,102
1932-33	759	61,613	80,999	143,371	1,202	21,823	166,396	18,031	73,217
1931-32	771	57,263	85,085	143,119	1,422	21,555	166,096	17,630	62,692
1930-31	1,152	61,080	79,318	142,486	731	21,463	161,679	32,161	1,08,140
1929-30	1,153	61,199	78,688	140,860	937	21,045	162,806	17,974	1,03,363

STATEMENT IV.

Forest survey operations from 1st April 1933 to 31st March 1934.

FOREST SURVEY									
Province.	Forest surveyed	Nature of survey operations				Total area of detail survey.		Expenditure of the year including mapping charges debitable to "Forests".	Remarks
		1"		4"		1933 34	Total up to date		
		Detail survey	Detail survey	Area	Cost rate				
1	2	3	4	5	6	7	8	9	10
								Rs. A. P.	
Ajmer . . .	...	...	..	...	..	...	172-04	.....
Andamans . .	...	.		...	...	...	527 00	.....
Assam . . .	...	...	..	...	..	...	5,891 62	.....
Baluchistan .	...	...	.	.	.	.	249 90	.....
Bengal . . .	Chittagong Hill Tracts	201 25	..	..	..	(a) 201-25	5,540 47	... ..	(a) Ordinary surveys not paid for by Forest Department
Bihar and Orissa.	Sambalpur East . .	73 15	.	...	..	(b) 73 15	2,553 42	.. .	(b) Ditto.
Bombay . . .	.	...	...	..	...	...	18,232 90	... .
Burma . . .	Upper Chin dwin . .	38-93	...	.	...	(c) 38-93	23,049-13	.....	(c), (d), (e), (f) Cost of surveys not debitable to "Forests".
	Lower " . . .	198 28	..	...	..	(d) 198 28			
	Myntha . . .	390 44	..	...	..	(e) 390 44			
	Yaw . . .	118 68	.	.	...	(f) 118 68			
Central Provinces.	...	...	...	...	...	...	19,636 30	.....
Coorg . . .	...	..	-	..	..	...	479-00	.....

STATEMENT IV—*contd.*Forest survey operations from 1st April 1933 to 31st March 1934—*contd.*

Provinces.	Forest surveyed.	Nature of survey operations.				Total area of detail survey.		Expenditure of the year including mapping charges debitable to " Forests ".	Remarks.
		1 st		4 th		1933-34.	Total up to date.		
		Area	Cost rate	Area	Cost rate.				
1	2	3	4	5	6	7	8	9	10
								Rs. A. P.	
India . . .	...	...	.	...	...	...	...	.. ..
Madras . . .	...	...	...	.	..	.	18,216.57	.....
N.-W. F. P. .	...	...	...	...	...	...	465 00	.....
Punjab . . .	...	...	.	...	...	...	4,385 00	.....
United Provinces.	...	...	...	...	...	...	7,142 70	.....
									Contributions to Forest Map Office by Provincial and Central Governments (after emergency cut).
								Rs. A. P.	Rs.
TOTAL 1933-34	1st April 1933 to 31st March 1934.	950.73	...	...	...	950.73	106,510 05	.. ..	40,560
" 1932-33	1st April 1932 to 31st March 1933.	402.25	..	...	...	402.25	105,579 32	.....	41,962
" 1931-32	1st April 1931 to 31st March 1932.	478.61	...	3.79	...	482.33	105,176.77	8,226 0 0	46,000
" 1930-31	1st April 1930 to 31st March 1931.	...	...	362.23	...	362.23	101,694.44	2,58,901 0 0	42,000
" 1929-30	1st April 1929 to 31st March 1930.	1,401.73	..	220.75	...	1,762.48	101,372.21	2,44,091 0 0	36,000

STATEMENT V.

Progress made in working plans.

Province	Area under sanctioned working plans					Area not under working plans.			Total forest area in Statement I. (Total of columns 5, 7, 8 and 9)	Revisions			
	At commencement of the year	Added during the year	Deducted during the year	At close of year		Plans under preparation.	Plans not under preparation.			Due or required.	In progress at the end of the year	Revised plans sanctioned during the year	Expenditure on working plans during the year
				Actual area	Percentage of total forest area (as shown in column 10).		Required at present.	Not required at present.					
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	Sq. m.	Sq. m.	Sq. m.	Sq. m.		Sq. m.	Sq. m.	Sq. m.	Sq. m.	Sq. m.	Sq. m.	Sq. m.	Rs.
Bengal . . .	6,763			6,763	63.6	1	111	3,761	10,639		105		
United Provinces	5,206	175	177	5,204	99.3	13	5	19	5,241		1,630	713	1,09,478
Punjab . . .	2,350	23	24	2,379	46	194		2,680	5,193		1,261		2,718
Burma . . .	24,971	121	111	24,957	79	956	1,206	1,254	(a) 31,533		4,371		
Federated Shan States	1,373			1,373	13	261	21	1,528	3,169		812		
Bihar and Orissa . .	2,239	169	14	2,391	79.18		10	608	3,012	92	955		1,235
Assam . . .	1,508			1,508	7	629	2,410	16,901	21,418	3	15		
Central Provinces . .	17,615	4	3	17,616	90	809	23	952	(b) 19,430		9,619	513	50,436
Coorg . . .	169			169	19.7			687	856				180
North West Frontier Province.	215			215	70			105	350				
Ajmer . . .	112			112	100				112				
Baluchistan . . .								788	788				
Andamans . . .	705			705	32.31			1,451	2,169		(c) 703		37,188
Madras . . .	10,271	1,094		11,365	70	2,825	2,080		16,273				
Pombay . . .	8,915	251		8,191	71	520	277	2,657	(d) 11,725	1,261	2,478	375	7,716
TOTAL 1923-24	62,661	1,873	1,087	63,447	63.04	6,161	6,239	36,451	132,208	1,376	16,209	1,541	2,09,361
" 1924-25	79,177	3,891	754	82,614	62.3	6,261	6,992	35,842	132,559	1,769	11,421	8,476	1,23,648
" 1925-26	76,134	3,235	711	79,658	69.2	6,615	10,397	185,673	134,516	1,196	15,825	3,145	2,01,574
" 1926-27	74,002	2,015	115	76,162	57.5	12,682	11,192	32,483	132,175	1,718	16,890	1,586	1,24,931
" 1927-28	71,111	3,975		71,515	57.1	11,860	9,364	34,186	130,397	3,796	15,561	1,937	1,25,877

(a) Excludes 171 square miles of leased forests.

(b) Excludes 171 square miles of leased forests.

(c) The area given is that of the old working plans. The exact area that will be included in the new working plans is not yet known.

(d) Excludes 2,280 square miles not under the management of the Forest Department.

STATEMENT VI.

Expenditure on communications and buildings.

Province.	New Works		Repairs.		Other Works	Total.
	Buildings.	Roads and paths.	Buildings.	Roads and paths.		
	2	3	4	5	6	7
1	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Bengal	9,235	256	36,811	33,523	9,442	89,265
United Provinces	10,881	5,213	67,009	98,578	17,062	2,19,042
Punjab	12,630	10,951	21,177	22,686	6,545	73,992
Burma	2,468	2,513	72,286	1,11,324	7,576	1,98,167
Federated Shan States	500	...	2,788	2,097	606	6,261
Bihar and Orissa	3,072	2,916	27,011	80,521	4,223	68,378
Assam	10,803	2,391	36,425	51,601	17,303	1,18,523
Central Provinces . . . . .	...	...	60,227	1,01,734	8,399	1,70,360
Coorg	84	...	3,492	4,772	1,678	9,976
North-West Frontier Province	906	...	6,598	17,937	2,023	27,464
Ajmer . . . . .	...	..	499	965	34	1,498
Baluchistan . . . . .	...	...	550	72	20	642
Andamans . . . . .	...	...	5,550	10	10,882	16,442
Madras	16,641	10,377	58,159	85,832	3,509	1,77,498
Bombay	32,715	26,070	21,175	85,584	9,255	1,80,789
Total 1933-34	99,915	60,715	4,43,297	6,53,535	98,855	13,56,317
„ 1932-33	1,01,867	1,07,050	4,28,655	6,91,264	1,06,801	14,39,267
„ 1931-32	1,67,776	1,71,830	4,42,278	7,78,561	1,55,362	17,18,907
„ 1930-31	30,23,437	21,98,826	4,75,776	7,63,718	3,39,036	68,00,793
„ 1929-30	32,73,523	22,51,038	5,94,180	10,22,334	3,74,595	75,56,269

STATEMENT VII.

Breaches of forest rules.

Province		Cases pending from 1932-33.	New Cases of the year					Total cases.	Disposed of during the year.						Cases pending at close of year.
			Injury to forest by fire	Unauthorized felling or appropriation of wood and minor forest produce	Grazing without permission, or in tracts in which grazing is prohibited	Other offences	Total new cases of the year.		Convictions		Acquittals.		Total.		
									Cases	Persons	Cases.	Persons.	Cases	Persons	
1		2	3	4	5	6	7	8	9	10	11	12	13	14	15
Bengal	A.	195	2	419	31	104	786	781	364	857	38	111	402	968	326
	B.	267	10	2,548	2,181	1,658	6,397	6,664	6,524	11,543	16	49	6,540	11,592	118
	C.	...	74	312	1	50	437	477	...	...	..	..	..	...	...
	Total	462	86	3,309	2,213	1,812	7,420	7,882	6,888	12,400	54	160	6,042	12,563	444
United Provinces	A.	88	...	98	30	41	112	200	132	330	21	74	153	404	53
	B.	796	32	1,614	1,830	1,168	4,664	5,460	4,287	11,647	340	560	4,627	12,207	827
	C.	.	61	149	35	23	271	271	..	..	..	..	...	..	...
	Total	884	96	1,801	1,915	1,235	5,047	5,931	4,410	11,977	361	634	4,780	12,611	890
Punjab	A.	1,314	4	653	161	392	1,518	2,632	1,003	1,705	114	293	1,117	2,093	335
	B.	968	25	2,815	5,184	2,877	10,901	11,869	11,183	14,639	1	2	11,184	14,641	400
	C.	...	53	56	55	34	199	199	...	...	..	...	...	...	...
	Total	2,282	82	3,523	5,701	3,303	12,618	14,000	12,186	16,431	115	300	12,301	16,734	1,335
Burma	A.	1,012	1	1,056	21	305	1,413	2,425	1,650	2,251	177	407	1,827	2,658	...
	B.	1,498	1	8,075	349	1,896	10,821	11,819	10,016	12,179	...	...	10,016	12,179	...
	C.	...	2	113	1	13	128	128	..	...	..	..	..	..	..
	Total	2,510	4	9,274	371	2,913	11,862	14,372	11,666	14,430	177	407	11,843	14,837	1,855
Federated Shan States.	A.	9	1	18	..	...	19	28	17	19	..	1	17	20	...
	B.	33	...	150	18	48	226	258	147	163	..	..	147	163	...
	C.	.	..	5	.	1	6	6	...	..	..	..	...	..	..
	Total	42	1	183	18	49	250	292	164	182	..	1	164	183	40
Bihar and Orissa	A.	35	4	256	48	53	361	396	277	610	27	99	304	709	79
	B.	116	6	3,750	651	184	4,590	4,708	4,387	12,184	..	...	4,387	12,184	238
	C.	...	138	18	...	..	166	156	...	..	..	..	..	...	...
	Total	151	147	4,024	699	237	5,107	5,260	4,664	12,794	27	99	4,691	12,833	317
Assam	A.	142	2	210	22	162	396	538	323	728	59	163	391	861	157
	B.	236	.	1,247	92	591	1,933	2,169	1,847	3,139	71	267	1,918	3,406	251
	C.	.	...	...	...	..	..	..	..	..	..	..	...	..	..
	Total	378	2	1,457	114	756	2,329	2,707	2,170	3,867	129	420	2,299	4,267	408
Central Provinces	A.	80	3	104	152	50	399	359	228	598	76	319	811	917	75
	B.	5,395	135	10,850	12,129	1,486	21,600	28,495	23,612	61,219	1,189	2,503	21,801	63,722	3,694
	C.	...	372	1,158	265	53	2,145	2,118	...	...	..	..	...	..	..
	Total	5,975	510	12,412	12,546	1,589	27,057	31,032	23,650	61,817	1,265	2,823	23,715	64,639	3,769
Coorg	A.	2	...	2	1	1	1	6	2	2	...	..	2	2	4
	B.	...	.	10	24	5	39	39	36	67	3	13	39	80	..
	C.	...	.	2	31	...	3	3	...	...	..	..	..	..	..
	Total	2	.	14	26	6	46	48	38	69	3	16	41	82	4
North-West Frontier Province	A.	352	8	372	375	153	928	1,275	845	767	303	314	438	1,051	810
	B.	523	...	994	1,693	433	3,120	3,843	2,853	4,376	...	...	2,853	4,376	612
	C.	...	18	...	...	...	19	19	...	...	..	..	..	...	...
	Total	1,075	21	1,867	2,068	606	4,032	5,137	4,198	5,143	...	314	3,291	5,457	1,422

STATEMENT VII—*contd.*Breaches of forest rules—*contd.*

Province.		Cases pending from 1932-33.	New Cases of the year					Total cases.	Disposed of during the year						Cases pending at close of year.
			Injury to forest by fire	Unauthorized felling or appropriation of wood and minor forest produce	Grazing without permission or in tracts in which grazing is prohibited	Other offences	Total new cases of the year.		Convictions		Acquittals.		Total.		
									Cases	Persons.	Cases.	Persons.	Cases.	Persons	
1		2	3	4	5	6	7	8	9	10	11	12	13	14	15
Ajmer	A.	8	3	35	63	11	132	110	106	172	14	30	120	203	20
	B.	...	7	596	1,610	32	2,275	2,275	2,275	4,236	...	...	2,275	1,236	...
	C.	..	...	...	...	...	...	...	..	..	..	...	..	...	...
	Total	8	10	631	1,723	43	2,407	2,415	2,381	4,408	14	30	2,395	1,436	20
Baluchistan	A.	7	...	30	16	1	47	54	39	60	1	...	40	80	14
	B.	...	1	73	199	...	273	273	273	363	...	...	273	363	...
	C.	..	...	..	..	...	..	..	...	...	..	..	..	..	...
	Total	7	1	103	215	1	320	327	312	413	1	..	313	413	14
Andaman	A.	...	..	1	...	3	4	4	3	1	1	1	4	5	...
	B.	...	...	13	...	2	15	15	11	14	1	1	15	15	...
	C.	..	..	...	..	..	...	..	...	..	..	..	...	...	...
	Total	..	...	14	...	5	19	19	17	18	2	2	19	20	..
Madras	A.	3,134	58	7,701	1,163	541	9,765	12,899	4,611	11,623	5,723	13,078	10,367	21,701	2,532
	B.	4,121	184	14,204	2,934	1,630	18,973	23,096	15,711	31,065	2,137	4,592	17,848	35,657	5,249
	C.	...	1,407	404	61	4	1,879	...	..	..	..	..	..	...	...
	Total	7,255	1,649	22,309	4,158	2,175	30,617	35,995	20,322	42,688	7,860	17,670	28,215	57,358	7,781
Bombay	A.	126	22	164	73	41	300	426	292	607	37	181	329	768	97
	B.	1,630	223	9,578	6,537	2,716	19,054	20,681	18,877	16,031	1	1	18,878	46,032	1,806
	C.	53	1,722	1,550	24	97	3,402	3,495	...	..	...	...	...	...	...
	Total	1,809	1,967	11,301	6,634	2,854	22,756	24,605	19,169	16,638	38	182	19,207	46,820	1,903
GRAND TOTAL	A.	6,504	103	11,124	2,761	1,661	15,850	22,303	9,135	20,443	6,380	15,066	13,815	35,509	5,102
	B.	11,285	425	56,526	35,501	11,729	107,370	121,667	102,042	212,665	3,759	7,658	105,891	220,833	13,194
	C.	93	3,850	4,077	447	274	8,648	8,662	..	...	...	...	..	..	...
Total 1933-34		20,835	1,576	71,737	38,729	16,894	131,510	150,021	111,477	233,308	10,130	23,054	121,616	256,342	20,101
„ 1932-33		18,177	5,126	70,315	36,377	16,835	123,823	117,000	104,473	211,227	10,453	24,202	111,050	236,429	18,405
„ 1931-32		17,985	1,047	63,399	36,028	14,730	119,762	136,740	99,775	207,057	9,827	20,661	107,000	227,021	17,677
„ 1930-31		12,280	4,547	53,756	33,620	12,622	110,844	125,059	69,782	191,845	7,571	18,593	97,057	210,740	16,584
„ 1929-30		18,710	4,300	57,959	33,994	13,837	119,112	120,025	97,518	106,182	5,353	11,870	102,652	211,002	11,722

N.B.—A. Cases taken into Court.

B. Cases compounded.

C. Untraced cases.

STATEMENT VIII.

Area protected from fire.

Province.	Area in square miles.		Percentage of forests under fire protection to total area of reserves	Percentage of failure to area attempted.		Remarks.
	Attempted.	Protected		Average of past five years to 1932-33.	1933-34.	
1	2	3	4	5	6	7
Bengal	1,747	1,730	21.3	6.9	0.97	
United Provinces	4,419	4,391	85.2	6.3	5.6	
Punjab	919	911	19.1	2.1	0.87	
Burma	145	133	3	6.7	4.14	
Federated Shan States	3	3	1.1	17.6	—	
Bihar and Orissa	1,904	1,761	65.5	8.2	7.6	
Assam	22	21	3	13.3	1.5	
Central Provinces	14,252	13,684	73.5	2.4	4.2	
Cooch	230	228	26.0	1.23	1	
North-West Frontier Province	115	115	12.3	4.1	2.02	
Ajmer	112	111	10.0	4.3	2.4	
Madras	15,231	14,466	63.5	5.7	5.01	
Bombay	9,317	8,657	65.7	6	7.08	
Total 1932-33	48,613	46,293	42.9	4.9	4.6	
" 1933-34	46,843	44,879	42.3	4.7	4.2	
" 1931-32	46,271	43,276	40.8	4.3	3.6	
" 1930-31	45,839	43,462	40.7	3.9	4.3	
" 1929-30	46,178	43,937	40.0	3.6	4.7	

STATEMENT IX.

Causes of forest fires.

Province.	Fires originating in departmental fire conservancy operations		External fires crossing the fire traces		Fires due to carelessness of outsiders.		Fires originating from intention or malice		Fires due to unknown causes.		Total.	
1	2	3	4	5	6	7	8	9	10	11	12	13
	No	Sq. m.	No.	Sq. m.	No	Sq. m.	No.	Sq. m.	No.	Sq. m.	No	Sq. m.
Bengal	2	..	3	..	33	7	3	..	28	9	60	16
United Provinces	16	2	21	4	38	1	1	..	63	18	133	25
Punjab	6	.	9	2	74	2	8	4	3	..	99	8
Burma	10	261	14	659	12	253	.	..	33	2,710	60	3,003
Federated Shap States . . . . .	..	..	..	..	1	2	2	68	1	6	4	66
Bihar and Orissa	7	1	20	23	22	41	27	11	131	65	213	152
Assam	1	..	3	..	16	1	12	131	.	.	31	132
Central Provinces	92	44	143	112	163	89	21	13	450	341	899	696
Coorg	7	..	3	..	7	1	.	..	16	2	32	3
North-West Frontier Province . . . . .	..	..	1	2	10	..	7	1	3	..	21	3
Ajmer . . . . .	..	..	..	..	10	..	..	..	1	..	11	..
Baluchistan . . . . .	..	..	..	..	1	1	.	..	..	..	1	1
Andamans . . . . .	..	..	..	..	..	..	..	..	..	..	..	..
Madras	47	4	200	73	1,077	66	93	35	967	199	2,380	767
Bombay	63	37	110	69	560	210	216	46	1,013	301	1,968	676
TOTAL 1933-34	215	330	633	911	2,020	697	390	309	2,733	4,074	5,030	6,349
" 1932-33	186	393	560	424	1,600	2,713	721	786	2,503	1,074	5,560	9,270
" 1931-32	150	83	640	1,337	1,320	1,030	837	8,117	9,880	9,079	6,313	16,625
" 1930-31	111	146	509	301	1,258	332	975	457	2,807	275	5,200	2,077
" 1929-30	740	179	652	413	1,360	458	560	862	1,262	23	5,187	7,864

STATEMENT X.
Area closed and open to grazing.

Area in Square Miles.							
Province.	Closed to all animals.		Open to grazing.				Total area as shown in Statement No I (Col. 6.).
	Whole year.	Part of year.	Of all animals.		Of all animals except browsers (camels, sheep and goats).		
			Whole year.	Part of year.	Whole year.	Part of year.	
1	2	3	4	5	6	7	8
Bengal	6,234	...	4,279	...	63	63	10,639
United Provinces	1,971	68	2,281	22	843	56	5,241
Punjab	450	26	4,105	110	385	117	5,193
Barma	21,086	...	91	224	2,639	4,513	123,371
Federated Shan States	2,308	...	...	...	745	136	59,547
Bihar and Orissa	609	...	607	1	1,427	361	3,013
Assam	5,150	...	14,715	...	1,583	...	21,443
Central Provinces	2,272	265	3,758	...	13,135	224	19,430
Coorg	80	430	...	...	...	439	856
North-West Frontier Province	66	...	93	...	191	...	350
Ajmer	53	83	3	...	...	80	142
Baluchistan	675	...	83	20	1	9	783
Andamans	52	...	...	...	358	...	2,169
Madras	1,959	196	10,891	5	9	3,210	16,273
Bombay	1,309	513	2,917	...	(a) 9,536	12	14,185
1933-34	47,344	1,893	43,826	382	30,915	9,232	2,82,664
1932-33	47,552	1,441	43,055	475	34,430	11,494	2,61,219
1931-32	46,629	1,337	40,989	438	31,408	5,610	2,45,931
1930-31	45,177	1,223	47,294	487	31,256	5,695	2,49,710
1929-30	44,819	1,030	46,303	586	31,292	5,932	2,40,154
TOTAL							

(a) Excluding an area of 2 sq. miles submerged in the Bhanderdara lake.

STATEMENT XI.
Protection from Cattle.

STATE
Protection

Province.	Grazed on payment, number of animals									
	At full rates					At privileged rates.				
	Buffaloes	Cows and bullocks	Goats and sheep.	Camels.	Other animals	Buffaloes	Cows and bullocks	Goats and sheep	Camels.	Other animals
1	2	3	4	5	6	7	8	9	10	11
Bengal	2,669	37,497	200	...	40	76	1,909	...	...	7
United Provinces	50,427	144,255	102,293	1,700	1,873	5,623	23,087	21,495	...	149
Punjab	8,137	15,049	129,500	15,058	173	809	9,339	111,908	...	104
Burma	1,248	24,102	.	*50	...	...	144	..	...	...
Federated Shan States	3,170	507	..	...	103	...	.	...	...	...
Dhar and Orissa	3,538	16,763	1,203	.	110	4,891	11,845	..	...	...
Assam	10,803	5,371	412	..	96	565	403	...	.	...
Central Provinces	313,578	222,574	322,545	18	3,602	100,970	1,711,657	2,551	..	70
Coorg	260	2,969	...	..	...	..	...	...	...	...
North-West Frontier Province	1,722	2,429	14	..	20	...	...	...	..	...
Ajmer	583	5,045	..	...	..	2,830	11,870	...	.	...
Baluchistan	171	1,212	850	..	58	..	...	...	...	...
Madras	80,413	875,328	385,182	...	70	12,141	89,416	18,822	...	...
Hombay	26,661	63,553	190,362	456	7,019	227,229	990,293	404,406	...	1,562
Total 1933-34	401,091	1,716,836	1,432,672	17,283	18,478	353,133	2,867,964	559,163	...	4,901
" 1932-33	387,619	1,624,321	1,287,707	25,000	13,756	343,980	2,815,991	891,731	...	5,118
" 1931-32	374,243	1,602,721	1,478,798	32,659	11,598	351,405	2,904,143	793,971	...	4,311
" 1930-31	425,646	1,935,252	1,812,087	25,612	12,269	340,059	2,788,569	949,521	103	2,885
" 1929-30	506,117	2,272,884	2,031,369	45,878	15,134	428,243	3,099,178	875,249	118	4,528

* In the case of Burma and the Federated Shan States the figures indicate elephants and not camels.

MENT XI.

from cattle.

Grazed free, number of animals.										Total number of animals grazed.
By right under settlement.					During pleasure of Government or otherwise than under settlement.					
Buffaloes.	Cows and bullocks.	Goats and sheep.	Camels.	Other animals.	Buffaloes.	Cows and bullocks.	Goats and sheep.	Camels.	Other animals.	
12	13	14	15	16	17	18	19	20	21	22
...	...	...	...	...	1,156	3,696	...	...	10	47,973
40,992	467,898	44,291	...	1,492	6,072	40,723	62,171	...	174	1,021,624
233,563	815,489	1,016,265	1,687	88,368	4,769	25,938	3	145	363	2,726,671
111,743	255,922	...	*213	444	13,161	8,968	...	*11,022	...	427,715
4,830	3,560	...	...	...	571	...	...	*290	...	13,435
76,174	208,140	101,250	...	9	61	746	300	...	...	425,056
5,467	6,639	507	...	4	...	627	...	...	...	30,901
...	375	...	...	...	4,514	259,292	1,169	20	639	3,146,580
40	482	...	...	...	2,230	11,482	...	...	...	17,463
5,366	9,299	5,500	500	100	...	...	...	...	...	24,050
291	928	...	...	...	...	...	...	...	...	21,550
...	3,829	51,170	...	1,600	...	...	...	...	...	59,920
2,108	10,194	5,071	...	150	9,035	89,720	445	...	...	1,578,171
2,216	6,597	...	...	32	112,999	474,187	15,031	2,481	1,917	2,538,731
482,793	1,789,358	1,224,087	2,400	42,199	155,158	915,883	79,142	13,953	3,112	12,079,149
439,621	1,808,711	1,078,097	2,187	43,010	147,077	920,435	109,428	2,092	13,660	11,992,664
431,878	1,798,325	1,071,092	1,887	42,479	101,724	860,981	60,280	2,189	13,868	12,075,314
453,309	1,811,036	1,138,583	1,687	43,126	150,388	793,149	65,167	1,731	13,787	12,524,466
364,210	1,682,848	1,498,514	330	304,041	132,329	837,155	68,838	1,058	16,438	14,080,144

STATEMENT XII.

Progress in concentrated regeneration and afforestation:

Province.	Area regenerated during the year		Area afforested during the year.	Total area.	Cost of regeneration and afforestation during the year, including tenders.
	Mainly natural.	Mainly artificial.			
1	2	3	4	5	6
	Acres.	Acres	Acres	Acres.	Rs.
Bengal . . . . .	...	2,413	...	2,413	68,169
United Provinces	5,529	1,292	435	7,556	1,05,052
Punjab	1,195	1,519	2,593	5,308	3,29,101
Burma	2,701	3,618	...	6,352	1,29,495
Federated Shan States . . . . .	...	68	...	68	5,957
Bihar and Orissa	1,200	208	31	1,532	8,508
Assam	765	1,367	...	2,132	33,309
Central Provinces	67,786	1,012	7	68,505	37,203
Cooch . . . . .	...	250	268	518	5,646
North-West Frontier Province . . . . .	...	224	20	244	13,653
Ajmer . . . . .	...	9	..	9	183
Baluchistan . . . . .	...	...	...	...	..
Andamans	321	65	...	386	11,691
Madras	331	3,540	291	4,365	53,214
Bombay	68,753	27,041	1,901	87,728	67,003
Total 1933-34	1,39,007	42,737	5,619	1,57,411	8,88,547
" 1932-33	1,38,865	21,761	2,525	1,63,154	9,00,378
" 1931-32	61,610	61,637	3,562	1,30,145	9,49,079
" 1930-31	not available			1,11,258	10,16,126

STATEMENT XIII.

Outturn of forest produce.

Province.	Reserved Forests.		Protected Forests		Unclassed Forests.		TOTAL.		Average Outturn per Square Mile.							
									Reserved Forests.		Protected Forests		Unclassed Forests.		TOTAL.	
	Timber and fuel.	Minor produce.	Timber and fuel.	Minor produce	Timber and fuel	Minor produce	Timber and fuel.	Minor produce	Timber and fuel.	Minor produce	Timber and fuel.	Minor produce	Timber and fuel.	Minor produce.	Timber and fuel.	Minor produce.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	C. ft.	Rs.	C. ft	Rs	C. ft	Rs.	C. ft	Rs.	C. ft	Rs.	C. ft.	Rs.	C. ft.	Rs.	C. ft	Rs.
Bengal . . .	20,370,000	4,04,363	537,000	3,034	400,000	70,464	21,330,000	4,81,860	3,146	63	718	4	144	20	2,011	48
United Provinces . . .	31,500,000	14,07,005	22,000	47	210,000	2,572	31,807,000	15,00,324	6,030	290	5,500	11	4,320	103	6,009	286
Punjab . . .	11,369,000	1,68,720	17,142,000	10,71,003	3,031,000	2,80,151	32,401,000	18,20,783	7,125	303	5,315	334	8,740	638	0,257	352
Burma . . .	49,500,000	3,71,000	...	...	45,089,000	2,51,000	88,648,000	0,20,000	1,381	13	...	...	400	3	718	5
Federated Shan States . . .	1,652,000	10,433	...	.	1,600,000	1,37,015	3,442,000	1,00,478	581	6	...	..	28	0	58	2
Bihar and Orissa . . .	4,745,000	1,04,170	4,764,000	1,40,000		2,320	0,400,000	2,50,405	2,560	58	4,112	1,201	..	333	3,101	85
Assam . . .	4,408,000	1,50,143	...	...	6,016,000	1,03,011	12,514,000	5,44,164	678	21	...	.	541	27	593	25
Central Provinces . . .	31,582,000	21,49,727	...	...	...	...	31,832,000	21,49,757	1,641	111	..	"	...	..	1,641	111
Coorg . . .	224,123	21,873	81,642	250	..	...	318,768	22,100	432	43	281	8	.	..	372	258
North-West Frontier Province . . .	2,220,000	68,170	208,000	3,603	22,000	.	3,540,000	71,687	13,180	278	2,840	33	..	...	16,140	365
Ajmer . . .	552,507	33,441	...	...	..	...	512,007	33,441	3,532	335	...	...	.	.	3,892	235
Baluchistan . . .	207,773	50,101	..	...	201,041	3	409,414	50,104	600	167	..	..	554	...	505	75
Andaman . . .	102,540	2,550	...	...	3,167,105	6,014	3,845,105	8,603	3,120	50	...	...	1,400	8	1,520	4
Madras . . .	10,187,000	11,17,410	262,000	1,05,507	2,814,000	3,36,005	21,819,000	15,00,158	1,213	71	330	170	..	..	1,170	75
Bombay . . .	54,020,000*	18,80,510	815,000	14,776	822,000	...	55,820,000	18,80,256	4,050	111	1,080	17	.	.	3,014	134
TOTAL 1919-21 . . .	227,472,311	83,43,600	24,004,412	13,40,364	65,720,090	15,11,460	317,257,031	1,12,07,414	2,114	70	3,430	103	228	0	1,122	40
„ 1922-23 . . .	220,560,400	87,77,470	24,216,547	13,01,182	62,021,110	0,80,018	315,707,120	1,10,07,710	2,134	88	3,368	180	426	7	1,201	42
„ 1921-22 . . .	220,472,833	85,70,512	23,609,626	12,90,410	61,830,177	11,08,400	305,011,533	1,13,27,007	2,031	84	3,333	167	401	0	1,211	40
„ 1930-31 . . .	160,880,110	64,77,804	49,831,011	12,90,411	61,420,776	18,78,810	312,852,830	1,20,39,554	1,763	58	7,560	1061	615	14	1,207	70
„ 1920-30 . . .	209,000,100	1,11,80,123	61,706,806	14,60,022	60,257,271	24,61,500	320,107,621	1,50,00,045	1,078	104	8,743	328	638	16	1,405	60

* Includes reserved forests but excludes sandalwood (176 tons scented wood and 125 tons unscented and rejected stuff)

STATEMENT XIV.

Forest produce removed by different agencies.

Part I.—Timber and Fuel.

Province.	Timber.					Fuel.				
	By Govern- ment	By purchasers	By free grantees.	By right holders	Total	By Govern- ment	By purchasers	By free grantees	By right holders	Total.
	2	3	4	5	6	7	8	9	10	11
1	C ft	C ft.	C. ft.	C ft	C ft	C ft	C ft	C ft	C ft	C ft.
Bengal	420,000	6,203,000	17,000	.	6,600,000	308,000	13,512,000	632,000	.	14,152,000
United Provinces	221,000	2,520,000	32,000	249,000	2,832,000	146,000	9,013,000	120,000	13,727,000	23,075,000
Punjab	656,000	2,075,000	61,000	653,000	3,476,000	1,305,000	2,413,000	434,000	23,823,000	23,015,000
Burma	1,003,000	20,721,000	211,000	165,000	33,129,000	286,000	10,167,000	2,732,000	4,044,000	56,219,000
Federated Shan States	15,000	2,607,000	21,000	41,000	3,047,000	2,000	230,000	.	124,000	307,000
Bihar and Orissa	60,000	2,290,000	57,000	201,000	2,550,000	53,000	2,071,000	26,000	3,697,000	6,349,000
Assam	276,000	4,657,000	602,000	...	5,434,000	37,000	3,900,000	3,010,000	7,000	7,957,000
Central Provinces	4,070,000	1,105,000	312,000	.	5,487,000	6,620,000	13,801,000	1,407,000	118,000	22,936,000
Coorg	111,000	30,207	.	.	151,167	76,018	81,500	.	.	157,518
North-West Frontier Province	60,000	1,433,000	2,000	5,000	1,500,000	153,000	157,000	1,210,000	616,000	2,067,000
Ajmer . . . . .	..	1,539	.	.	1,539	251,000	200,150	...	.	451,150
Baluchistan	1,500	1,503	450	.	3,453	16,549	410,078	620	..	427,247
Andamans	2,016,876	12,300	46,000	10,730	2,075,906	729,412	93,433	200,520	150,000	2,173,365
Madras	1,011,000	1,740,000	213,000	19,000	3,023,000	1,317,000	17,355,000	112,000	8,000	18,782,000
Bombay	601,000	5,041,000	113,000	334,000	7,252,000	780,000	30,311,000	17,000	8,222,000	39,374,000
Total 1833-34	12,745,016	60,661,865	1,720,100	2,858,780	77,205,991	12,113,913	152,055,195	10,105,040	54,677,000	227,961,057
" 1832-33	15,193,012	63,615,373	1,007,700	3,100,100	86,725,779	13,789,138	148,717,053	9,251,060	55,103,530	229,979,151
" 1831-32	14,815,603	61,450,670	1,630,000	3,074,000	83,200,000	13,103,161	160,021,550	7,562,100	64,117,559	225,814,255
" 1830-31	17,600,563	72,018,540	1,572,670	3,000,000	93,132,000	16,531,251	146,014,124	7,970,450	63,217,280	227,710,156
" 1829-30	21,413,337	87,510,010	1,630,300	3,642,101	114,110,820	19,210,943	154,415,552	9,335,500	61,021,040	225,022,993

STATEMENT XIV—*contd.*Forest produce removed by different agencies—*contd.*

Part II.—Value of minor forest produce.

Province.	Bamboos					Grazing and Fodder Grass.					Other Minor produce.					
	By Government.	By purchasers.	By free grantees.	By right holders.	Total.	By Government.	By purchasers.	By free grantees.	By right holders.	Total.	By Government.	By purchasers.	By free grantees.	By right holders.	Total.	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Bengal . . .	741	1,30,710	456	...	1,87,010	...	30,127	42,501	.	78,681	8,518	2,65,171	1,567	2,05,256
United Provinces .	288	71,420	81	7,090	78,817	452	1,84,058	41,323	3,12,364	5,38,727	4,74,520	3,50,780	41	57,303	8,83,650	
Punjab . . .	10,842	2,010	...	393	13,245	12	1,30,000	42,504	18,60,727	18,54,360	2,10,307	20,609	14	22,385	2,62,200	
Burma . . .	477	2,10,111	0,504	13,033	2,30,155	...	13,163	16,582	1,29,171	1,07,008	8,434	1,67,246	1,162	10,170	1,65,002	
Federated States. Shan	3	3,255	1	637	3,891	.	3,023	0,205	4,207	13,626	147	1,40,809	20	1,075	1,40,057	
Bihar and Orissa .	1,052	53,775	420	8,340	60,162	..	0,006	125	1,30,970	1,40,001	1,181	42,020	162	0,573	50,832	
Assam . . .	31	40,403	11,658	...	61,170	.	33,540	42,310	110	76,060	11,660	2,71,678	1,33,061	...	4,07,906	
Central Provinces .	14,241	2,04,772	17,534	...	2,04,117	1,403	1,351,036	1,83,263	874	16,72,081	60,704	2,37,614	20,181	7,400	3,13,710	
Coorg . . .	167	503	4	...	671	...	668	...	136	974	...	10,801	831	..	20,193	
North-West Frontier Province.	...	.	...	...	...	...	5,544	80	9,658	16,182	56,210	1,166	...	100	56,805
Ajmer . . .	...	645	...	...	645	1,280	13,724	570	13,210	29,210	700	2,751	..	...	3,550
Baluchistan . . .	...	...	...	...	..	...	1,101	...	53,010	54,780	773	3,234	405	...	4,114
Andamans . . .	..	22	1,236	170	1,479	..	...	...	..	...	..	2,709	4,078	200	7,106
Nadras . . .	21,100	3,05,017	1,447	340	3,53,541	108	5,69,040	20,843	7,300	6,16,041	10,601	5,76,050	1,570	610	5,51,703	
Bombay . . .	162	64,029	4,310	67,188	1,40,269	.	7,21,755	20,210	8,35,720	15,86,727	2,571	1,17,370	2,037	36,463	1,50,391	
TOTAL 1031-34 .	10,037	12,54,414	43,707	77,110	14,24,378	8,420	30,07,110	4,68,038	20,52,377	61,48,001	8,60,007	21,66,017	1,60,381	1,40,706	83,31,052	
" 1052-57 .	30,772	14,58,017	26,610	71,444	10,29,075	0,704	37,01,881	4,16,080	22,70,102	63,62,407	7,52,602	20,10,675	1,15,030	1,55,013	80,76,218	
1031-32 .	30,814	73,50,054	20,878	76,670	15,20,020	5,800	30,81,700	3,78,104	27,01,080	67,70,876	7,66,656	27,08,608	1,70,117	1,81,017	24,20,102	
" 1030-31 .	31,106	14,80,286	22,107	77,039	15,70,581	11,203	37,67,071	1,07,245	33,30,647	60,00,780	11,28,176	76,66,705	2,41,101	1,81,642	41,03,474	
" 1020-30 .	63,602	10,03,051	20,397	83,754	18,20,551	0,114	35,01,107	3,03,111	74,18,050	72,75,181	11,70,107	80,36,377	2,63,140	0,27,677	40,08,810	

STATEMENT XV.

Exports of forest produce.

Articles of forest produce. 1	Quantity in tons of 20 cwt (in the case of teak and other timbers, cubic tons).		Valuation at port of shipment in 1933-34	
	Average of 5 years 1928-29 to 1932-33 2	In 1933-34. 3	Total 4	Per ton. 5
Caoutchouc, raw	8,646	7,235	Rs. 31,17,631	Rs. 431
Button	1,062	935	6,90,655	723
Lao	19,542	26,454	1,94,21,939	784
Shell	7,792	9,141	15,28,053	495
Stick, seed and other kinds	2,036	1,562	3,75,568	240
Gutch and gambier	61,027	61,835	55,93,150	99
Myrabolams	462	590	21,21,276	3,546
Cardamoms	763	928	12,50,122	1,265
Sandal	56,933	26,738	61,30,661	229
Teak . . . . .	...	...	10,43,361	...
Other kinds of wood and timber * . . . . .	...	...	...	...
TOTAL 1933-34 . . . . .	...	...	4,42,78,526	.
" 1932-33 . . . . .	...	...	2,61,03,771	...
" 1931-32 . . . . .	...	...	3,89,72,648	...
" 1930-31 . . . . .	...	...	6,91,67,627	...
" 1929-30 . . . . .	.	...	11,60,51,584	...

* Quantity not recorded

STATEMENT XV (a).

Imports of timber into British India.

Year (calendar).	Imports of timber into British India.		Imports of sleepers of wood for railways into British India.	
	Cubic tons	Rs.	Tons.	Rs.
1930	26,413	36,03,907	...	...
1931	17,948	20,31,273	...	...
1932	12,218	11,87,996	...	...
1933	18,475	15,74,950	6	612
1934	19,440	15,15,918	...	...

STATEMENT XVI.

Estimated value of forest produce given away free or at reduced rates.

Province.	Timber.	Fuel.	Bamboos.	Grass and grazing.	Other minor produce.	Total.
1	2	3	4	5	6	7
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Bengal	1,693	13,473	456	46,896	1,567	66,085
United Provinces	7,593	1,918	7,130	3,53,667	57,841	4,80,669
Punjab	61,118	10,89,517	...	...	14,48,053	25,10,718
Burma	57,310	27,063	6,565	56,582	1,181	1,49,671
Federated Shan States	4,616	...	1	6,236	26	11,168
Bihar and Orissa	22,059	39,131	5,775	1,39,549	6,828	2,14,242
Assam	38,261	21,226	11,655	44,829	1,23,661	2,43,795
Central Provinces	42,803	67,617	17,631	13,76,743	22,581	18,17,508
Coorg . . . . .	...	...	4	3,819	831	4,680
North-West Frontier Province	1,411	47,056	...	9,633	100	55
Ajmer . . . . .	...	...	...	14,112	...	14,112
Baluchistan . . . . .	...	...	...	53,619	405	54,024
Andamans	6,001	4,271	1,415	...	4,268	16,058
Madras	48,657	27,313	1,829	35,705	7,433	1,20,837
Bombay	1,01,502	1,51,871	54,493	8,61,972	39,160	12,14,936
TOTAL 1933-34	3,97,257	14,40,019	1,06,857	30,05,475	17,11,185	60,60,808
„ 1932-33	4,19,137	15,41,716	80,693	30,05,718	10,96,958	67,62,122
„ 1931-32	4,20,591	14,85,400	88,026	24,74,014	17,46,255	62,11,698
„ 1930-31	3,31,058	14,90,101	1,00,634	26,36,041	15,30,752	60,00,586
„ 1929-30	4,53,355	12,76,935	1,35,132	23,57,166	14,33,193	46,24,081

STATEMENT XVII.

Details of revenue and expenditure for the financial year 1933-34.
(Excluding Burma and Federated Shan States)

		Rs.	Percentage of each item to total.
Gross Receipts	(a) Wood	1,70,12,825	64.7
	(b) Minor forest produce	34,62,610	13.2
	(c) Forest stamps and Commutation fees for forest produce	86,768	.3
	(d) Grazing	30,73,291	11.7
	(e) Revenue from forests not managed by Government	6,24,022	2.4
	(f) Miscellaneous	20,21,334	7.7
	Total Revenue	2,62,81,129	100.0
Expenditure	A Recurring	(i) Superior Staff	
		(ii) Subordinate Staff (including Rangors, Foresters and Guards)	1,30,35,123
		(iii) Office Establishments (including Contingencies).	59.9
		(1) Extraction	41,25,842
		(2) Roads and Buildings	10,52,530
		(3) Fire protection	2,14,042
		(4) Cultural operations	7,12,338
		(5) Live-stock, stores and plant	2,03,277
		(6) Working-Plans	2,50,045
		(7) Rent for leased forests	1,68,229
		(8) Miscellaneous	1,57,207
		(e) Expenditure on realization of revenue from forests not managed by Government.	9,165
		(d) Forest Science and Education (including all "A" and "B" charges of Forest College and Research Institute).	7,20,394
		Total	2,00,55,102
			100.0
	B Extraordinary	(e) Forest Settlement	100
		(f) Forest Survey	22,117
		(g) Forest Demarcation	51,456
		(h) Gain or loss by Exchange on English transactions, interest on capital outlay, etc.	7,50,474
		(i) Share of Capital charges transferred to S-A	1,60,052
		Total	10,14,192
			100.0
	GRAND TOTAL OF EXPENDITURE		2,11,02,391
	Net Revenue		51,78,768
	(Excluding Burma and Federated Shan States)		

* Expenditure under this head in provinces has been included in (a) Administration.

STATEMENT XVII(a).

Details of revenue and expenditure for the financial year 1933-34.

(Burma and Federated Shan States only)

			Rs.	Percentage of each item to total.
Gross Receipts	(a) Wood		75,00,023	81.6
	(b) Minor forest produce		5,32,424	6.0
	(c) Grazing		21,926	.3
	(d) Revenue from forests not managed by Government		1,34,514	1.8
	(e) Miscellaneous		6,30,667	7.1
	Total Revenue		88,39,554	100.0
Expenditure	A Recurring	(a) Administration	(i) Superior Staff	
			(ii) Subordinate Staff (including Rangers, Foresters and Guards).	47,68,056
			(iii) Office Establishments (including Contingencies).	76.3
		(b) Working	(1) Extraction	5,94,557
			(2) Roads and Buildings	9.7
			(3) Fire protection	1,96,772
			(4) Live-stock, stores and plant	3.2
			(5) Working Plans, revision and maintenance	27,632
			(6) Maintenance of boundaries . . . . .	.5
			(7) Regeneration and improvement	1,88,673
			(8) Silvicultural Research	3.1
			(9) Utilisation Research	"
			(10) Other Works	"
			(11) Miscellaneous	4.495
			(12) Losses of Government commercial undertakings . . . . .	.1
		Total	60,91,648	100.0
	B Extraordinary	(c) Forest Survey	669	.2
		(d) Gain or loss by Exchange on English transactions, interest on capital outlay, etc	4,29,601	96.6
		(e) Share of capital charges transferred to S-A	5,316	1.2
	Total		4,35,616	100.0
	GRAND TOTAL OF EXPENDITURE		65,27,464	...
	Net Revenue		23,12,090	...
	(Burma and Federated Shan States only)			

Summary of revenue and expenditure of the

Budget Heads.	Imperial	Bengal	United Provinces	Punjab	Burma (includes Federated Shan States and back-ward tracts)	Bihar and Orissa (includes Angul Division)	Assam.
1	2	3	4	5	6	7	8
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
REVENUE							
I.—Timber and other produce removed from the forests by Government agency	...	2,16,938	5,11,770	10,41,676	11,07,799	4,363	1,39,612
II.—Timber and other produce removed from the forests by consumers or purchasers	..	11,83,667	36,63,850	6,05,600	68,56,574	6,29,775	11,27,458
III.—Drift and waif wood and confiscated forest produce	.	3,391	1,703	29,530	1,67,213	372	15,345
IV.—Revenue from forests not managed by Government.	...	...	40,643	902	1,54,514	...	44,665
V.—Miscellaneous . . . . .	...	1,12,594	3,18,484	2,72,000	4,56,049	52,567	1,29,886
Deduct—Refunds . . . . .	.	—13,829	—22,539	—1,532	—12,595	—2,279	.
TOTAL REVENUE	..	15,02,561	45,16,911	19,43,176	83,39,564	6,84,823	14,57,193
EXPENDITURE.							
A—CONSERVANCY, MAINTENANCE AND REGENERATION							
I.—Timber and other produce removed from the forests by Government Agency	..	1,96,292	2,02,077	1,03,304	4,66,703	1,095	61,261
II.—Timber and other produce removed from the forests by consumers or purchasers	...	1,38,515	1,26,017	2,507	96,045	29,021	57,733
III.—Drift and waif wood and confiscated forest produce.	...	1,515	930	10,194	31,809	68	438
IV.—Revenue from forests not managed by Government	..	...	9,165	...	151	...	...
V.—Rent of leased forests and payments to shareholders in forests managed by Government	...	...	6,595	1,09,693	.	..	11,974
VI.—Live-stock, stores, tools and plant . .	...	58,753	47,410	4 005	1,68,873	3,526	19,036
VII.—Communications and buildings . .	.	88,838	2,12,107	47,723	1,96,772	64,631	88,926
VIII.—Demarcation, improvements and extension of forests	...	85,210	2,53,017	1,13,425	1,79,548	29,258	38,218
IX.—Miscellaneous . . . . .	..	15,629	10,553	—16,095	1,62,012	13,916	38,092
Work Advances . . . . .	...	—103	..	...	—2,645	...	..
Total A—Conservancy, Maintenance and Regeneration.	.	5,27,252	9,62,321	6,74,559	13,19,297	1,32,593	3,14,849
B—ESTABLISHMENTS							
Total B—Establishments (includes salaries, travelling and other allowances and contingencies)	16,667	8,24,421	(a) 16,12,777	9,39,229	47,68,036	4,71,319	7,61,154
C.—Total gain or loss by exchange on English transactions, interest on capital outlay, etc.	..	67,408	72,547	1,60,708	4,29,601	47,116	67,570
D.—Total share of Capital charges transferred to E-A (i.e., Capital charges met from Revenue).	..	22,009	6,975	3,43,153	10,510	17,128	33,117
E.—Total Capital Outlay under B-A (i.e., not transferred to E-A)	.	..	..	..	.	.	...
GRAND TOTAL OF EXPENDITURE (Excluding expenditure under E)	46,667	14,12,181	26,54,580	21,37,910	65,27,464	6,68,971	11,97,019
SURPLUS (Including expenditure under E)	..	60,376	18,62,331	..	23,12,090	16,752	2,60,179
DEFICIT	46,667	..	..	1,89,764	..	..	..
Proportion of surplus to gross revenue . . . .	..	1-21-0	1-2-4	..	1-2-8	1-41	1-5-6
Net revenue per square mile of forest area under control of Forest Department	...	57	355-3	..	12-6	5-5	12-1

(a) Includes figures of General Direction Division.

MENT XVIII.

Forest Department in India for the financial year 1933-34.

Central Provinces and Berar	Coorg.	North-West Frontier Province.	Ajmer	Baluchistan.	Andaman	Forest College and Research Institute.	Madras	Bombay	Total.
9	10	11	12	13	14	15	16	17	18
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
13,99,580	3,90,623	2,01,035	43,172	4,019	13,75,303	...	12,83,673	14,78,992	92,03,143
26,49,019	32,580	1,01,019	35,118	5,427	1,261	...	17,81,206	35,80,212	2,23,45,888
1,502	...	5,187	...	50	...	...	11,635	2,943	2,56,833
1,745	...	11,392	...	7,693	...	...	4,85,507	17,863	7,67,932
3,59,756	9,818	23,477	9,968	5,112	22,047	13,055	3,99,507	3,61,050	25,44,192
-6,023	-677	-753	...	...	-610	...	-17,183	-10,975	-59,825
41,03,011	1,32,341	4,35,260	89,278	22,340	11,01,054	13,055	89,43,068	51,30,090	3,51,20,713
5,42,217	40,512	1,14,951	23,525	1,068	8,36,731	...	3,43,549	6,25,861	38,69,566
1,55,700	7	1,390	467	269	673	...	1,67,107	59,737	8,17,271
79	...	2,760	...	...	...	...	...	...	47,363
...	...	...	...	...	...	...	...	...	9,846
8,618	...	23,477	...	...	...	...	...	27,672	1,65,229
21,013	8,220	1,630	293	09	15,434	4,350	25,147	5,041	4,76,105
1,72,533	9,942	26,543	8,173	612	5,228	597	1,63,789	1,20,711	12,05,857
1,50,723	29,279	16,619	2,116	1,719	12,810	...	1,21,492	1,10,419	11,49,126
1,25,457	1,549	3,303	309	411	343	61,378	33,106	88,471	4,96,809
-6,654	...	-194	-4,278	...	-15,629	...	...	...	-23,506
11,73,072	86,509	1,90,694	30,998	4,230	8,78,593	66,523	9,29,591	9,78,935	82,50,525
19,52,760	1,06,665	1,85,654	31,434	30,718	1,85,035	5,29,806	27,36,856	21,46,107	1,73,47,822
2,14,823	12,614	20,478	...	...	...	9,070	-133	97,343	12,19,134
2,724	286	1,811	...	...	53,078	2,675	2,51,053	63,882	8,12,674
16,185	...	...	81	...	...	1,225	...	...	(6)17,091
33,47,399	2,06,074	3,09,670	62,472	31,918	10,96,756	6,06,915	30,20,340	21,86,807	2,76,29,585
10,62,612	2,25,270	30,100	25,826	...	5,41,375	...	22,726	21,43,723	74,90,858
...	...	...	...	12,605	...	5,40,510	...	...	...
1 : 47	1 : 10	1 : 110	1 : 34	...	1 : 46	...	1 : 173	1 : 25	1 : 47
51.7	25.5	101.5	181.0	...	129	...	1.1	161.1	25.5

(b) Not included in grand total of expenditure.

Revenue of the Forest Department throughout India for the 35 financial years

(I) REVE

Province	Average of 1863-70 to 1873-74	Average of 1874-75 to 1878-79	Average of 1879-80 to 1883-84	Average of 1884-85 to 1888-89	Average of 1889-90 to 1893-94	Average of 1894-95 to 1898-99	1899-1900	1900-01	1901-02	1902-03	1903-04	1904-05
	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs
Imperial . . .	2,175	31,717	25,429	10,866	5,117	9,688	6,000	3,463	3,484	3,659	7,155	3,763
Bengal* . . .	1,64,263	2,89,772	6,09,578	6,91,384	7,66,431	10,49,364	11,38,910	3,839	12,92,237	12,56,247	10,65,323	11,27,472
United Provinces . . .	12,59,979	12,21,670	11,74,615	14,63,525	16,89,190	15,31,824	16,11,740	15,65,463	17,15,305	20,25,324	22,50,110	23,97,316
Punjab . . .	6,57,423	7,05,558	7,37,333	9,11,950	9,00,117	11,89,510	14,00,770	13,50,842	14,47,553	15,66,103	17,17,797	15,74,443
Burma . . .	8,94,293	14,29,175	19,88,356	25,01,318	49,78,654	63,13,312	78,12,050	60,54,444	53,73,933	67,89,053	82,68,575	89,52,756
Bihar and Orissa . . .												
Assam† . . .		1,01,098	1,91,887	2,32,035	3,82,750	4,15,912	5,68,100	5,49,521	5,12,963	5,80,200	6,75,732	8,15,677
Central Provinces and Berar . . .	7,41,879	9,79,936	12,81,932	14,11,163	16,08,505	13,75,858	12,97,499	12,63,611	15,79,116	16,84,423	19,95,032	21,13,479
Cooch . . .	92,491	78,887	1,03,179	1,13,021	1,53,136	1,33,456	1,62,410	1,37,596	1,70,242	1,90,730	2,24,031	1,97,957
North-West Frontier Province . . .									13,012	1,01,123	1,01,539	91,991
Ajmer . . .	65	1,152	4,475	11,859	15,233	14,162	10,270	10,646	6,865	9,736	13,654	17,297
Baluchistan . . .			8,556	10,973	17,293	15,330	17,069	16,946	14,712	19,836	16,869	22,555
Andamans . . .	5,467	4,485	31,810	57,633	2,78,025	2,54,438	2,63,600	2,77,886	2,66,093	2,96,035	4,32,351	6,29,796
Forest College and Research Institute . . .				397	1,636	3,040	3,210	3,697	3,515	3,232	2,933	3,557
Forest Surveys (Imperial) . . .		17	139	206	663	300	429	327	473	3,031	431	
Madras . . .	6,03,243	5,89,369	8,06,020	13,00,481	17,14,325	31,10,988	24,02,230	23,49,170	25,48,420	26,13,619	21,57,727	23,29,216
Bombay . . .	11,77,673	12,23,561	16,89,816	50,11,814	33,54,833	39,46,244	24,15,200	29,61,529	23,79,729	23,29,156	27,51,539	30,20,558
GRAND TOTAL . . .	56,20,061	66,60,397	88,17,213	1,16,65,145	1,59,10,014	1,77,15,756	1,90,02,610	1,97,70,493	1,78,23,715	1,84,71,549	2,22,16,747	2,10,59,951

Province.	1917-18	1918-19	1919-20	1920-21	1921-22	1922-23	1923-24	1924-25
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Imperial . . .	51,720	27,488	21,527	27,122	27,809	26,553	29,571	39,101
Bengal . . .	13,76,963	19,44,104	20,51,237	21,81,763	18,93,979	23,11,226	22,61,515	24,75,539
United Provinces . . .	61,16,697	66,37,166	74,71,954	87,79,781	86,46,677	83,72,803	73,56,029	69,21,657
Punjab . . .	21,17,776	21,54,178	38,45,878	33,05,058	49,91,178	34,44,123	23,86,773	37,27,312
Burma . . .	1,23,61,493	1,25,23,852	1,64,57,262	1,59,75,060	2,21,16,787	1,89,43,772	1,94,62,799	1,96,77,824
Bihar and Orissa . . .	7,53,625	9,44,763	8,17,458	8,10,762	9,00,578	8,81,934	10,29,055	10,70,268
Assam . . .	17,03,956	14,92,718	14,51,599	15,31,944	12,07,027	17,13,639	19,71,222	21,78,755
Central Provinces and Berar . . .	34,66,493	34,88,422	45,40,721	49,94,526	41,83,693	47,05,979	51,04,029	52,32,032
Cooch . . .	4,53,673	6,77,573	9,48,028	1,27,751	7,33,791	9,42,653	7,00,917	6,88,903
North-West Frontier Province . . .	3,37,711	3,81,722	4,67,541	2,19,779	5,71,851	7,27,659	5,53,932	6,69,767
Ajmer . . .	27,733	37,280	31,911	48,112	40,812	43,978	55,122	60,662
Baluchistan . . .	17,974	25,405	17,607	22,544	17,229	14,939	22,403	29,393
Andamans . . .	7,97,656	11,81,383	8,00,777	6,21,374	5,53,093	5,68,067	6,11,382	7,25,797
Forest College and Research Institute . . .	78,104	9,083	12,648	24,117	1,84,763	1,67,379	1,02,379	1,02,379
Forest Surveys (Imperial) . . .								
Madras . . .	54,58,267	47,91,460	64,84,139	73,31,216	48,69,171	52,72,976	54,75,577	55,09,682
Bombay . . .	67,12,022	1,08,94,071	84,91,433	62,08,755	74,97,563	70,37,584	71,49,604	73,07,961
GRAND TOTAL . . .	4,03,49,857	4,75,12,231	5,30,75,779	5,41,49,195	5,87,16,071	5,52,14,072	5,62,90,319	5,67,44,682

* Includes figures up to 1910-11 for districts subsequently transferred to Bihar and
† Includes figures up to 1910-11 for Eastern Bengal districts subsequently transferred
(a) Including Federated Shan States.

MENT XIX.

from 1899-1900 to 1933-34 and the average of 6 quinquennial periods from 1869-70 to 1898-99.

NUE.

1905-06	1906-07.	1907-08	1908-09	1909-10.	1910-11.	1911-12	1912-13.	1913-14	1914-15	1915-16	1916-17.	Province.
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
7,255		7,666	8,180	10,632	8,662	10,680	12,837	11,471	12,017	27,457	21,516	Imperial
11,18,512	10,67,530	11,97,650	11,81,815	10,80,610	11,67,441	11,22,112	16,00,601	15,16,111	13,01,406	11,15,810	13,38,779	Bengal *
21,33,128	23,02,661	21,09,715	21,75,106	23,01,161	21,76,470	39,16,160	35,13,063	37,12,487	31,35,221	37,35,631	50,10,932	United Provinces.
17,61,033	16,05,251	15,57,119	12,88,791	10,72,073	12,17,883	13,10,077	12,39,033	17,51,013	11,35,003	17,37,243	10,87,801	Punjab
1,03,29,669	85,12,519	86,63,950	91,02,032	91,58,077	1,03,70,117	99,67,591	1,09,22,305	1,14,25,431	97,07,691	93,93,217	1,23,70,531	Burma.
"	"	"	"	"	"	1,07,213	1,04,258	4,91,735	5,19,779	5,17,727	5,29,031	Bihar and Orissa.
11,00,006	12,20,592	11,30,117	11,46,568	15,51,732	19,90,671	11,16,320	11,12,091	10,97,069	8,32,877	10,55,052	11,48,621	Assam †
21,49,131	21,01,150	22,00,128	20,78,162	20,78,310	21,14,236	25,49,851	31,71,815	31,66,153	32,72,629	32,73,261	33,71,578	Central Provinces and Berar.
2,15,119	2,15,909	2,71,756	2,21,330	2,13,120	2,76,056	2,85,170	2,51,052	3,29,227	1,09,237	4,19,155	4,87,311	Coorg.
1,28,529	1,63,214	2,34,190	1,22,782	1,73,305	2,05,311	1,58,171	2,37,183	2,66,711	2,39,013	1,66,818	2,10,933	North-West Frontier Province
15,002	18,375	27,801	27,615	23,930	37,816	26,361	36,596	33,607	31,170	21,115	21,272	Ajmer
21,451	21,101	21,520	23,305	18,729	23,212	27,117	20,159	19,658	19,056	21,637	18,271	Baluchistan.
5,82,511	6,07,027	5,10,622	2,02,018	2,50,177	1,16,773	5,22,160	4,19,925	1,15,611	3,39,218	4,31,781	6,19,711	Andamans.
3,000	1,579	6,137	4,680	1,000	1,030	5,550	7,011	5,606	6,617	6,995	6,199	Forest College and Research Institute
"	"	"	"	"	"	"	"	"	"	"	"	Forest (Imperial) Surveys
29,67,601	37,93,663	38,91,539	38,87,919	11,78,351	39,80,111	41,66,021	11,12,173	43,00,329	39,11,537	11,06,835	15,06,126	Madras.
37,44,231	44,22,181	39,10,177	35,57,556	35,57,656	37,15,221	13,90,569	49,02,519	51,03,156	16,60,212	47,01,263	55,19,177	Bombay.
2,66,71,573	2,41,91,191	196,2,58,62,970	2,51,56,109	2,69,25,791	2,71,05,451	2,93,57,839	1,22,09,803	3,33,61,515	2,97,09,781	3,11,16,367	3,70,61,070	GRAND TOTAL.

1925-26	1926-27	1927-28.	1928-29.	1929-30	1930-31.	1931-32.	1932-33.	1933-34	Province
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
"	"	"	"	"	"	"	"	"	Imperial
28,76,121	31,93,811	37,19,260	31,18,337	30,52,078	21,12,019	16,91,679	15,11,717	15,02,561	Bengal.
61,29,253	58,71,205	72,01,183	61,50,391	61,79,693	49,76,118	45,29,027	45,95,531	45,16,911	United Provinces
41,17,016	39,07,731	31,91,217	77,47,625	31,57,771	23,81,895	22,11,509	19,51,009	19,18,176	Punjab
2,27,16,118	2,37,91,499	2,21,07,075	1,61,01,177	2,03,69,101	1,58,67,550	1,13,97,019	92,11,859	85,39,554	Burma.
10,28,502	9,13,752	9,34,769	10,97,161	9,93,275	8,11,447	6,28,013	6,16,573	6,81,827	Bihar and Orissa.
30,39,110	31,31,173	36,13,169	37,67,873	35,29,035	22,61,077	19,27,078	16,16,405	14,77,102	Assam
19,57,240	19,21,978	19,78,160	11,16,516	53,97,605	51,11,891	41,17,111	12,70,168	11,06,011	Central Provinces and Berar.
5,35,718	1,54,115	4,93,972	7,17,036	5,72,031	3,99,073	1,15,521	3,37,321	4,32,311	Coorg.
7,11,207	7,91,166	7,59,700	8,27,377	8,61,377	8,03,902	7,31,293	7,97,710	6,55,200	North-West Frontier Province.
72,759	69,911	78,515	87,021	91,503	95,278	87,597	90,425	88,228	Ajmer.
93,021	27,019	2,18,607	23,125	29,307	29,577	27,576	27,013	22,810	Baluchistan.
8,91,023	11,70,863	11,18,062	15,03,706	20,00,513	12,37,536	11,31,158	16,22,129	14,01,061	Andamans.
1,05,657	2,71,025	1,16,167	1,09,091	1,07,865	93,705	29,092	73,960	14,075	Forest College and Research Institute
"	"	"	"	"	"	"	"	"	Forest (Imperial) Surveys
51,70,520	56,27,790	57,11,191	61,51,773	61,61,821	52,67,057	42,11,612	17,38,169	15,04,068	Madras.
75,15,015	76,76,120	72,91,091	73,11,015	70,74,361	55,91,713	16,75,411	10,54,100	81,89,099	Bombay.
5,93,70,825	6,19,64,791	6,18,09,139	5,91,09,113	6,13,22,961	4,79,70,853	3,90,07,577	3,71,11,020	4,91,59,718	GRAND TOTAL.

Orissa.
to Bengal.

(b) Rs. 54,151 deducted on account of Refunds.

Expenditure of the Forest Department throughout India for the 35 financial years

(II) EXPEN

Province.	Average of 1859-70 to 1873-74	Average of 1874-75 to 1878-79	Average of 1879-80 to 1883-84	Average of 1884-85 to 1888-89	Average of 1889-90 to 1893-94	Average of 1894-95 to 1898-99	1899-1900	1900-01	1901-02	1902-03	1903-04	1904-05
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Imperial*	63,685	67,102	80,454	87,183	84,125	82,516	96,530	83,578	79,539	85,017	80,345	83,051
Bengal†	1,11,081	2,12,021	3,55,117	3,91,317	4,01,147	5,38,653	5,47,210	5,70,806	6,57,131	6,35,011	7,03,105	6,85,589
United Provinces	9,63,005	8,39,709	8,38,653	9,17,898	9,16,428	9,15,078	9,12,380	9,63,139	10,08,739	10,13,998	10,61,115	13,01,363
Punjab	8,29,326	5,37,115	5,41,212	6,44,872	6,16,371	7,59,221	12,11,160	8,87,813	9,38,335	9,60,055	11,76,415	10,12,351
Burma	1,02,847	8,12,279	10,12,512	13,22,121	16,72,383	21,20,612	21,47,119	26,51,717	26,46,437	23,00,263	31,52,104	31,46,024
Bihar and Orissa . . . . .	..	..	..	..	..	..	..	..	..	..	..	..
Assam‡ . . . . .	..	88,293	1,02,160	2,11,635	2,68,159	2,66,870	3,57,110	3,47,973	3,29,112	3,27,498	4,25,164	5,03,656
Central Provinces and Berar	3,99,072	4,33,731	6,13,539	7,37,805	10,10,637	11,78,600	12,75,820	11,65,866	12,00,904	12,57,285	12,80,036	13,29,615
Coorg	40,681	36,391	62,218	73,297	77,016	82,146	71,220	70,905	82,333	89,127	92,191	83,520
North-West Frontier Province . . . . .	..	..	..	..	..	..	..	..	10,510	31,026	60,603	71,955
Ajmer	6,197	18,692	13,107	17,620	11,061	16,722	15,350	16,782	15,927	16,377	16,680	16,641
Baluchistan . . . . .	..	..	12,591	16,130	39,112	33,508	28,650	29,251	21,180	23,240	21,677	21,672
Andamans	739	451	5,129	11,108	1,76,139	1,85,125	1,40,910	1,40,187	2,04,667	2,51,702	2,66,121	3,42,431
Forest College and Research Institute . . . . .	..	..	..	23,716	45,023	65,120	79,550	71,233	76,290	66,338	59,330	61,421
Forest Surveys (Imperial).	11,911	63,233	40,417	21,177	21,191	31,936	31,950	33,991	33,730	35,955	39,975	23,229
Madrass	4,55,871	5,76,976	6,29,660	10,67,521	12,65,113	15,06,756	16,53,570	17,15,171	17,69,571	18,35,532	17,50,931	19,82,098
Bombay	6,18,016	8,70,157	12,51,292	18,11,812	19,09,759	19,81,552	21,25,179	24,08,351	17,19,630	16,76,411	17,75,917	19,01,891
GRAND TOTAL	39,33,130	45,76,804	56,09,579	71,26,953	86,02,352	97,95,119	1,10,21,650	1,11,09,010	1,07,16,355	1,12,19,531	1,21,66,997	1,29,67,556

Province.	1917-18.	1918-19	1919-20	1920-21.	1921-22	1922-23	1923-24	1924-25
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Imperial*	90,323	1,10,638	1,32,777	1,08,993	2,57,011	4,73,421	1,41,459	1,68,595
Bengal	7,38,712	8,23,815	9,72,07	13,36,750	12,88,122	12,31,249	12,42,672	14,17,451
United Provinces	32,01,928	45,93,963	61,55,175	70,13,578	71,01,658	61,58,156	43,50,695	36,64,005
Punjab	11,58,018	17,05,601	21,16,120	35,75,719	19,76,076	49,06,671	29,16,035	26,11,458
Burma	51,87,179	56,91,982	67,28,200	73,07,014	80,83,091	99,72,119	1,03,02,159	96,25,313
Bihar and Orissa	3,90,716	4,39,619	5,06,500	5,89,118	9,01,665	7,17,531	7,50,657	7,90,397
Assam	6,86,627	6,99,961	8,21,717	9,66,601	9,91,511	11,14,671	11,59,815	13,70,853
Central Provinces and Berar	18,72,124	20,15,513	23,76,239	27,33,601	27,15,821	30,21,417	30,41,108	31,71,883
Coorg	1,99,911	1,27,572	5,07,547	4,76,756	6,30,617	5,86,067	5,65,593	3,58,731
North-West Frontier Province	1,53,875	2,07,337	3,01,153	4,54,197	7,19,781	6,12,383	1,55,567	5,58,713
Ajmer	26,501	23,573	17,252	37,417	11,320	59,819	49,451	49,125
Baluchistan	29,930	28,787	25,314	2,761	59,275	36,168	31,110	30,178
Andamans	3,97,721	6,12,926	9,71,191	13,27,930	12,87,027	8,05,181	6,06,311	11,57,600
Forest College and Research Institute	2,59,094	2,93,018	3,18,507	1,37,181	7,32,621	7,37,586	7,75,642	8,26,363
Forest Surveys (Imperial)	50,397	59,110	59,973	90,118	1,07,123	1,19,235	95,944	..
Madrass	30,20,849	31,82,320	36,01,315	17,30,156	71,17,856	17,89,169	16,33,826	59,72,459
Bombay	39,53,714	42,08,721	50,13,682	53,05,022	50,27,916	40,11,311	44,01,621	13,82,317
GRAND TOTAL	2,41,57,965	2,82,72,505	3,17,67,199	3,64,18,907	4,08,51,678	3,99,12,041	3,55,15,369	3,52,67,883

* Includes pay of Inspector-General of Forests, Assistant Inspector-General of Forests.
† Includes figures up to 1910-11 for districts subsequently transferred to Bihar and
‡ Includes figures up to 1910-11 for Eastern Bengal districts subsequently transferred
(a) Includes Federated Shan States

MENT XIX—contd.

from 1899-1900 to 1933-34 and the average of 6 quinquennial periods from 1869-70 to 1898-99.

DITURE.

1905-06	1906-07	1907-08.	1908-09	1909-10	1910-11	1911-12	1912-13.	1913-14	1914-15	1915-16	1916-17	Province.
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
89,767	95,472	1,00,204	1,01,183	1,01,332	92,606	91,711	1,01,162	99,296	99,478	1,03,502	1,03,218	Imperial *
5,93,509	6,31,386	7,19,391	8,83,991	5,91,099	6,43,285	7,05,771	6,60,791	6,40,157	6,70,935	5,91,675	6,19,619	Bengal †
14,05,182	13,06,661	11,91,013	12,22,176	12,00,398	12,37,936	13,63,673	16,29,261	18,95,011	23,17,510	25,66,707	27,35,915	United Provinces.
11,65,661	11,41,193	11,76,696	8,51,627	6,67,752	7,40,512	7,65,116	7,99,176	9,19,177	8,89,302	9,23,878	9,31,672	Punjab
39,88,063	36,59,723	35,31,532	37,17,217	36,83,618	38,42,790	41,31,163	41,38,581	42,71,301	46,80,147	48,86,241	49,36,538	Burma
...	...	...	...	...	...	3,00,916	3,75,691	3,55,618	3,81,371	3,61,559	4,17,072	Bihar and Orissa
5,93,010	7,07,860	8,00,373	8,91,319	10,12,511	10,87,310	8,41,013	8,08,911	9,10,210	8,98,330	7,55,214	6,76,083	Assam ‡
13,07,153	13,11,898	15,83,197	17,53,307	15,86,862	15,89,577	18,38,379	19,16,735	19,57,129	19,36,569	17,31,336	17,63,775	Central Provinces and Berar.
95,719	1,02,855	1,01,819	99,505	1,07,822	1,07,679	1,21,171	1,61,511	1,76,514	1,75,678	1,76,673	1,60,192	Coorg
95,258	92,650	88,490	81,113	77,991	72,192	89,136	1,23,179	1,31,023	1,25,579	1,01,795	1,18,070	North-West Frontier Province
17,181	16,715	18,188	19,916	19,372	19,918	22,313	29,714	23,595	21,733	25,152	26,631	Ajmer.
25,718	26,322	31,253	36,556	26,519	26,787	28,017	28,527	25,310	26,000	27,995	26,929	Baluchistan.
3,35,985	2,95,186	2,20,267	1,80,911	1,91,159	2,26,063	2,61,732	2,55,111	2,71,676	2,58,056	4,30,872	1,28,632	Andamans.
80,669	1,37,186	1,58,038	1,63,191	1,96,171	2,19,183	2,63,411	2,68,415	2,98,338	3,31,091	2,78,516	3,05,198	Forest College and Research Institute
30,011	30,339	27,060	39,128	41,062	11,110	33,793	35,809	37,717	42,353	48,663	47,407	Forest Surveys (Imperial).
22,26,602	21,89,660	27,80,857	29,17,261	33,39,635	31,25,801	31,11,852	31,50,482	29,35,217	28,60,657	23,27,318	28,12,673	Madras.
21,26,093	19,91,171	19,55,127	20,17,673	20,63,688	29,70,117	26,61,116	29,24,455	25,69,677	24,67,023	26,12,078	25,61,651	Bombay.
1,12,20,521	1,10,62,819	1,45,12,933	1,47,26,071	1,19,20,651	1,52,41,023	1,69,16,566	1,72,07,810	1,75,41,157	1,81,06,130	1,85,92,607	1,67,17,663	GRAND TOTAL

1925-26	1926-27	1927-28	1928-29	1929-30	1930-31.	1931-32.	1932-33	1933-34	Province
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
1,18,911	1,21,858	61,691	59,761	61,198	(b) 1,04,252	59,082	45,019	46,667	Imperial *
12,69,018	17,31,761	17,02,453	16,82,191	16,65,180	15,05,199	16,61,011	15,06,513	11,42,183	Bengal.
36,95,346	43,73,190	39,93,303	32,13,716	37,88,710	32,78,623	26,11,164	26,03,079	26,51,550	United Provinces.
27,01,510	27,03,376	29,51,871	21,33,319	29,69,197	28,01,461	21,01,103	22,09,110	21,37,910	Punjab.
(a) 66,87,913	(a) 69,10,881	(a) 68,57,858	(a) 61,21,771	(a) 78,03,595	(a) 75,61,259	(a) 66,52,310	(a) 65,61,385	(a) 65,27,163	Burma
6,67,621	10,83,069	6,63,371	8,59,373	9,62,662	7,31,675	7,63,257	6,31,793	6,68,071	Bihar and Orissa.
16,37,979	11,17,809	14,45,767	21,22,366	22,20,302	21,16,589	16,11,208	14,10,217	11,97,019	Assam
33,15,729	36,12,691	31,99,163	36,19,269	39,75,657	39,60,617	31,53,161	31,72,297	33,47,899	Central Provinces and Berar.
3,05,395	2,81,770	2,59,186	2,65,133	8,11,151	2,97,350	2,28,515	1,99,098	2,06,071	Coorg
5,17,321	6,40,719	6,91,411	8,31,935	8,40,215	8,13,708	7,53,898	6,15,792	3,98,679	North-West Frontier Province.
55,161	79,718	82,851	76,955	81,390	83,821	87,681	75,153	62,432	Ajmer.
31,355	33,422	31,019	36,878	37,651	41,725	31,696	32,369	31,918	Baluchistan.
11,35,069	12,20,037	11,50,631	13,28,027	16,47,151	17,27,918	12,31,667	13,10,763	10,96,756	Andamans
8,11,033	8,96,565	9,35,201	9,41,737	9,31,831	9,69,167	7,83,171	6,02,578	6,00,915	Forest College and Research Institute.
...	...	...	...	...	...	...	...	...	Forest Surveys (Imperial).
48,23,239	50,36,811	47,69,591	45,39,503	45,18,627	13,79,321	39,89,837	37,69,150	49,29,319	Madras.
12,07,626	43,59,516	43,11,781	41,02,415	46,75,278	43,51,586	40,66,789	40,53,204	32,56,367	Bombay.
3,30,63,202	3,56,06,316	3,56,81,654	3,50,71,260	3,63,35,513	3,52,05,803	3,00,71,631	2,87,96,582	2,70,29,865	GRAND TOTAL

Office Establishment, and undistributable and petty local items and revenues and charges on Indore and Bhopal. Excludes Home charges. Orissa.

to Bengal

(b) Includes Rs. 1,23,687 on account of Chongla Timber Operations.

Surplus of the Forest Department throughout India for the 35 financial years

(III) SUR

Province	Average of 1867-70 to 1872-73	Average of 1874-75 to 1878-79	Average of 1879-80 to 1883-84	Average of 1884-85 to 1888-89	Average of 1889-90 to 1893-94	Average of 1894-95 to 1898-99	1899-1900	1900-01	1901-02	1902-03	1903-04	1904-05
	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs
Imperial*	-61,510	-35,355	-55,025	-76,269	-78,978	-72,125	-90,160	-81,115	-76,035	-81,338	-81,894	-79,229
Bengal†	53,181	77,748	2,51,431	2,37,037	3,62,281	3,10,712	3,93,700	6,62,533	6,35,106	6,18,223	3,62,015	1,75,530
United Provinces	2,93,271	3,81,941	2,03,937	5,45,627	7,12,767	5,96,746	8,72,360	6,02,021	7,06,769	10,11,326	11,99,008	10,05,753
Punjab	1,41,903	1,18,410	1,96,096	2,67,578	2,54,013	3,80,256	1,89,310	1,63,499	5,00,123	6,26,113	5,61,352	8,52,053
Burma	4,01,431	6,16,896	9,75,811	11,78,591	33,06,271	41,91,900	53,61,610	53,99,727	32,27,181	35,48,790	49,16,151	57,12,832
Bihar and Orissa	-	-	-	-	-	-	-	-	-	-	-	-
Assam†	-	12,805	29,127	20,160	1,11,591	1,29,043	2,10,960	2,01,549	1,83,651	2,52,701	2,50,248	3,12,021
Central Provinces and Berar	3,42,807	5,16,102	6,63,453	6,73,358	6,78,816	1,91,293	21,670	99,718	3,78,212	1,27,110	7,17,066	6,92,814
Coorg	52,807	42,296	40,923	33,117	76,120	51,310	88,190	66,691	87,909	1,01,293	1,31,519	1,09,237
North-West Frontier Province	-	-	-	-	-	-	-	-	6,198	47,038	11,220	16,033
Ajmer	-6,132	-17,540	-8,722	-5,761	1,172	-2,560	-5,080	-6,136	-9,062	-6,641	2,796	1,656
Baluchistan	-	-	-1,078	5,157	-21,154	-18,178	-11,620	-12,298	-9,768	-3,904	3,331	-2,117
Andaman	4,728	1,001	29,711	16,723	1,02,889	69,010	1,10,660	1,37,719	62,236	11,333	1,61,260	2,78,665
Forest College and Research Institute	-	-	-	-28,349	-47,357	-62,050	-70,349	-67,511	-72,715	-63,086	-56,801	-57,567
Forest (Imperial), Surveys	-11,911	-69,271	-40,305	-24,271	-27,823	-31,636	-33,560	-33,661	-33,237	-30,951	-33,591	-28,229
Maurice	1,46,109	11,413	1,85,760	2,32,960	4,29,215	6,04,232	6,48,760	6,24,739	8,33,876	7,75,237	9,06,797	8,43,116
Bombay	5,29,627	3,58,071	6,12,526	11,69,502	14,15,101	10,61,662	2,86,770	3,52,948	6,60,010	6,52,715	9,75,602	11,16,951
GRAND TOTAL	16,06,691	20,69,593	31,07,691	42,11,193	73,45,662	79,19,616	79,81,030	86,10,453	70,77,827	82,22,299	1,02,19,751	1,10,62,024

Province	1917-18	1918-19	1919-20	1920-21	1921-22	1922-23	1923-24	1924-25
	Rs	Rs	Rs	Rs	Rs	Rs	Rs	Rs
Imperial*	-35,612	-83,150	-1,08,179	-1,41,871	-2,29,209	-4,06,911	-1,11,938	-1,38,405
Bengal†	6,98,237	11,18,269	10,76,999	8,18,013	6,10,897	10,79,977	10,19,613	10,88,058
United Provinces	27,11,769	20,38,213	13,16,179	17,36,203	12,41,959	22,11,317	30,03,311	32,77,832
Punjab	9,59,725	3,54,871	11,29,753	2,59,309	6,15,102	-11,62,128	11,70,198	11,12,821
Punjab (a)	-	-	-	-	-	-	(a)	(a)
Punjab	68,71,320	63,36,870	93,97,062	1,16,68,016	1,80,23,689	89,71,503	91,99,210	1,00,14,511
Bihar and Orissa	3,62,909	5,11,914	3,10,653	2,21,451	-91,291	1,61,373	2,78,123	2,79,871
Assam	6,21,329	8,01,737	6,59,873	3,65,317	3,05,516	5,99,219	8,11,117	11,47,903
Central Provinces and Berar	15,91,869	11,72,871	21,70,193	16,60,625	14,17,872	16,72,562	20,61,821	20,60,769
Coorg	2,33,732	2,52,701	1,40,191	-39,107	1,03,036	3,56,616	1,35,319	3,00,579
North-West Frontier Province	1,63,836	1,13,965	1,61,025	-2,31,418	-1,74,591	1,15,276	71,765	81,071
Ajmer	1,229	8,772	-12,768	10,697	-108	1,178	5,966	16,937
Baluchistan	-12,065	-3,679	-7,777	-6,217	-36,046	-21,329	-9,037	-9,885
Andaman	1,95,002	5,71,557	-1,70,695	-7,67,536	-7,86,929	-2,17,157	-2,81,832	-4,28,093
Forest College and Research Institute	-2,81,370	-2,68,965	-3,10,195	-4,41,896	-7,08,707	-5,51,823	-6,04,703	-7,21,786
Forest Surveys (Imperial)	-1,01,471	-30,116	-30,955	-90,413	-1,07,113	-1,19,957	-18,911	-
Andaman	21,43,191	36,05,916	55,77,501	8,50,700	-2,46,185	1,81,203	7,81,731	1,67,223
Bombay	23,35,525	26,71,854	23,12,530	15,49,323	31,69,617	30,27,010	27,15,580	29,25,647
GRAND TOTAL	1,03,12,111	1,17,71,187	1,10,12,530	1,77,33,568	1,74,64,101	1,52,04,091	2,04,71,559	2,14,76,789

* Includes survey of Inspector-General of Forests. Assistant Inspector-General of Forests, and the forest survey up to 1910-11 for districts not yet actually transferred to Bihar and Orissa. Includes Federated Shan States.
(b) Includes Rs. 1,25,587 on account of Chengtu Timber Operations.

MENT XIX—concl'd.

from 1899-1900 to 1933-34 and the average of 6 quinquennial periods from 1869-70 to 1898-99.

PLUS.

1905-06.	1906-07	1907-08	1908-09	1909-10	1910-11	1911-12	1912-13	1913-14	1914-15	1915-16	1916-17	Province
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
-76,512	-95,472	-92,538	-95,991	-93,700	-53,911	-61,031	-91,325	-87,825	-87,431	-66,015	-78,702	Imperial *
5,35,033	1,32,173	1,81,256	6,00,861	4,89,541	5,21,159	4,16,065	10,39,807	9,75,951	6,33,561	5,51,975	7,19,130	Bengal †
10,28,346	11,90,013	12,15,732	9,51,970	10,91,586	11,40,501	16,52,487	19,14,609	18,16,473	8,17,195	11,72,521	23,05,017	United Provinces
5,17,959	1,60,891	2,80,753	1,37,185	3,61,851	1,77,116	5,11,091	1,39,857	1,35,566	5,18,503	8,03,105	7,53,139	Punjab
63,91,506	61,52,766	51,12,157	54,74,785	56,74,459	62,27,318	58,76,132	67,63,809	71,50,529	50,27,247	49,12,976	71,42,913	Burma
"	"	"	"	"	"	1,06,207	63,061	1,36,087	1,65,108	1,56,177	81,109	Bihar and Orissa
5,12,186	6,13,732	6,30,071	5,55,019	5,22,191	8,03,297	3,05,307	3,33,180	1,87,729	-65,462	2,99,888	4,72,588	Assam ‡
11,41,978	10,53,251	7,06,721	3,21,855	4,91,158	5,21,693	7,11,175	12,25,080	12,33,321	13,35,960	15,11,926	16,02,608	Central Provinces and Berar
1,49,671	1,33,034	1,69,997	1,21,735	1,05,307	1,63,376	1,73,996	1,20,108	1,59,713	27,401	2,72,521	3,26,823	Coorg
33,271	89,561	1,50,090	41,369	95,914	1,32,850	68,775	1,15,010	1,35,718	1,12,120	82,020	1,22,915	North-West Frontier Province
-2,129	1,120	11,676	7,699	4,718	13,929	1,018	6,552	10,302	9,497	-1,707	-5,362	Ajmer
-4,262	-5,127	-6,129	-13,251	-7,820	-2,175	-8,830	-8,865	-5,923	-6,942	-6,962	-6,652	Baluchistan
2,16,520	3,11,891	62,555	21,077	65,915	1,89,810	2,69,425	1,91,781	1,71,135	81,193	9,952	2,21,059	Andamans
-77,589	-1,32,907	-1,51,901	-1,76,511	-1,91,265	-2,15,103	-2,57,891	-2,60,831	-2,92,532	-3,22,471	-2,71,523	-2,97,299	Forest College and Research Institute
-30,011	-30,359	-27,009	-39,129	-41,062	-41,140	-33,795	-35,899	-37,713	-42,853	-45,663	-47,407	Forest Surveys (Imperial).
7,01,092	8,10,009	11,12,973	9,73,658	8,26,716	6,51,610	7,51,079	9,61,091	12,61,503	10,50,852	11,79,529	17,53,418	Madras.
12,53,900	11,32,298	16,90,759	15,11,153	16,91,563	16,47,807	16,66,138	21,00,061	25,19,379	21,02,317	20,59,225	29,51,196	Bombay
1,21,16,072	1,21,27,667	1,13,50,016	1,07,90,765	1,11,05,119	1,21,61,171	1,21,10,793	1,50,01,999	1,57,59,099	1,15,03,331	1,25,23,769	1,87,18,017	GRAND TOTAL

1925-26.	1926-27.	1927-28.	1928-29.	1929-30	1930-31	1931-32.	1932-33	1933-34	Province.
Rs.	Rs.	Rs.	Rs.	Rs.	Rs. (b)	Rs.	Rs.	Rs.	
-1,18,903	-1,23,859	-61,601	-59,361	-61,493	-1,93,252	-59,052	-15,019	-17,667	Imperial *
15,05,152	13,89,080	16,17,027	14,36,166	13,86,893	7,16,020	37,435	3,101	60,378	Bengal
27,39,935	21,97,891	32,07,680	29,36,675	27,93,928	16,97,495	18,81,759	10,91,605	18,02,731	United Provinces
11,10,596	12,04,315	2,30,113	10,31,706	1,83,571	-1,16,566	1,59,897	-2,57,140	-1,59,761	Punjab
1,36,59,775	1,10,53,176	1,35,69,810	96,75,372	1,25,57,509	81,07,012	17,19,709	23,76,171	27,12,099	Burma
3,62,968	-1,39,317	2,75,386	2,16,788	36,613	70,713	-1,35,241	-12,910	10,752	Bihar and Orissa
11,71,157	16,85,967	21,67,693	16,15,507	12,09,706	1,46,458	3,15,670	2,06,188	2,60,179	Assam
16,41,680	16,72,685	15,78,692	17,97,957	20,21,855	11,51,077	9,93,917	10,17,871	10,62,612	Central Provinces and Berar.
2,33,123	1,73,775	2,43,156	2,60,503	2,60,577	11,723	2,57,306	1,38,225	2,26,270	Coorg
1,96,686	1,59,117	65,286	-5,558	21,159	-9,806	-22,613	1,20,918	36,590	North-West Frontier Province.
17,593	-12,791	-6,339	11,663	12,603	11,452	-37	15,972	25,826	Ajmer.
-7,737	-1,480	-1,152	-13,453	-8,851	-12,418	-6,710	-6,751	-12,608	Baluchistan
-2,11,031	-49,231	-32,623	1,71,779	3,59,359	2,19,578	2,19,796	3,11,536	3,01,995	Andamans.
-7,02,336	-6,22,511	-6,19,197	-8,35,736	-8,27,969	-8,78,863	-7,01,082	-5,57,618	-5,44,840	Forest College and Research Institute.
"	"	"	"	"	"	"	"	"	Forest Surveys (Imperial).
3,17,281	5,66,856	5,71,897	15,95,270	19,15,153	5,35,573	3,01,157	1,99,919	2,25,135	Madras.
93,29,112	32,96,901	29,82,313	28,50,590	32,99,686	32,99,686	32,99,686	32,99,686	32,99,686	Bombay.
2,59,07,623	2,63,68,115	2,56,21,452	2,37,47,874	2,19,56,818	1,29,89,563	97,47,492	1,03,14,408	71,97,853	GRAND TOTAL.

Office Establishment, and undistributable and petty local items and revenue and charges on Indore and Bikaner. Excludes Imperial charges.
 Orissa
 to Bengal.

STATEMENT No. XX.

Forest Area by ownership (in square miles).

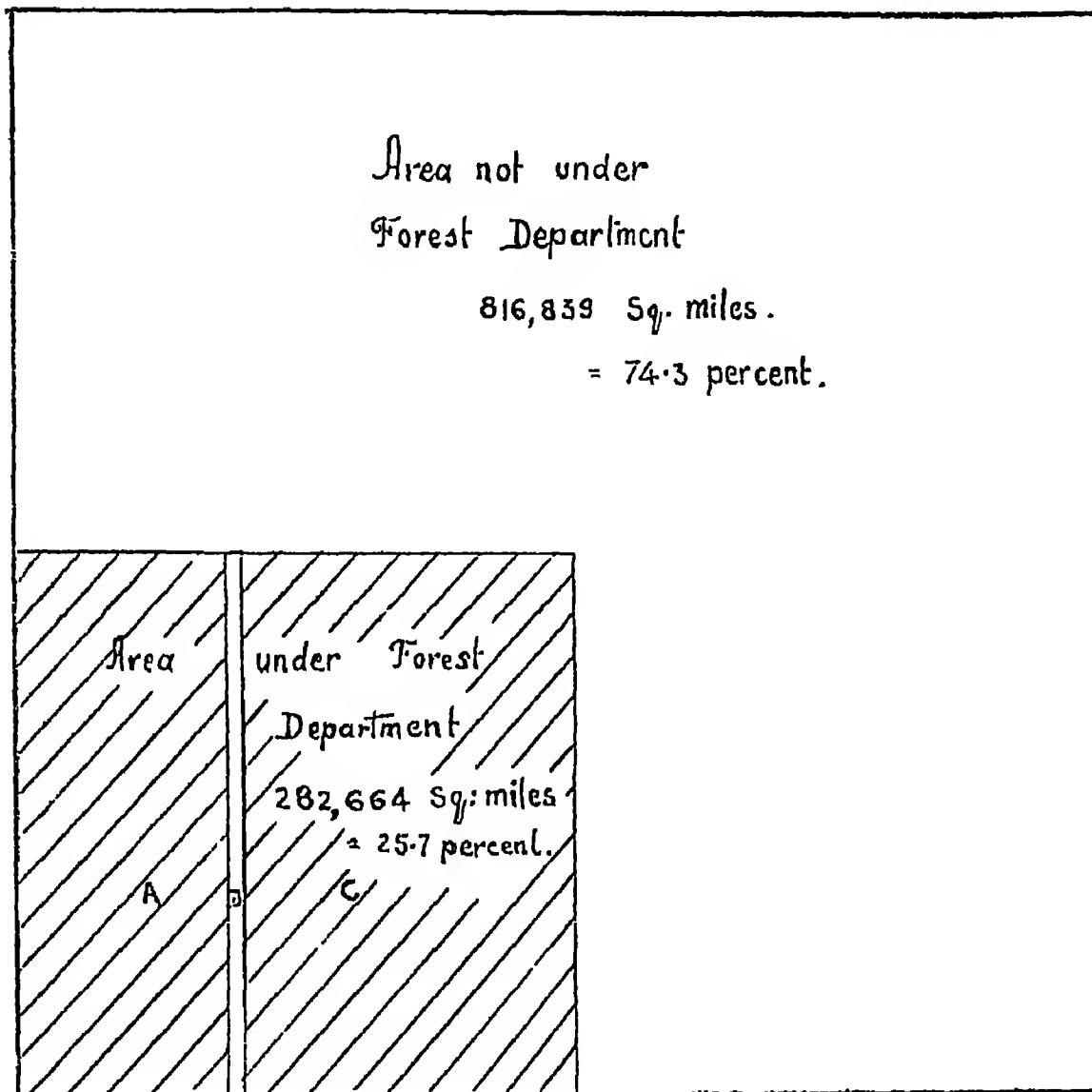
Province.	Type of Forests	THE STATE			Corporate Bodies	Private individuals	Total	REMARKS.
		Dedicated to timber production	Other forest	Total				
1	2	3	4	5	6	7	8	9
Bengal	Merchantable	6,925	91	7,026		1,654	8,650	
	Unprofitable or inaccessible	21	3,415	3,466	"		3,466	
United Provinces	Merchantable	3,491	760	4,191	21	1,200	5,412	
	Unprofitable or inaccessible	"	10,084	10,084		1,876	11,960	
Punjab	Merchantable	874	181	1,055	132	.	1,197	
	Unprofitable or inaccessible	1,161	2,977	4,133	667	"	4,805	
Borneo	Merchantable	21,901	52,916	74,907		.	74,907	
	Unprofitable or inaccessible	6,061	41,483	48,461	.	"	48,461	
Federated Shan States	Merchantable	2,433	5,784	8,217	"	"	8,217	
	Unprofitable or inaccessible	715	50,615	51,330		"	51,330	
Bihar and Orissa	Merchantable	902	2,118	3,020	"	14,118	17,138	
	Unprofitable or inaccessible		679	679		"	679	
Assam	Merchantable	3,252	"	3,252		52	3,304	
	Unprofitable or inaccessible	2,879	15,616	18,495	"	"	18,495	
Central Provinces	Merchantable	12,221	(a) 2,176	20,397	.	16,208	36,605	
	Unprofitable or inaccessible	"	(b) 2,686	2,686	.	9,226	11,912	
Coorg	Merchantable	372	191	563	"	199	762	
	Unprofitable or inaccessible	123	130	253	.	146	409	
North-West Frontier Province	Merchantable	180	.	180	"	35	215	
	Unprofitable or inaccessible	"	175	175		98	273	
Ajmer	Merchantable	100	.	100			100	
	Unprofitable or inaccessible	42	"	42	"	.	42	
Baluchistan	Merchantable	"	.	"	.	.	.	
	Unprofitable or inaccessible	"	788	788	"	"	788	
Andamans	Merchantable	2,075	.	2,075		"	2,075	
	Unprofitable or inaccessible	134	"	134	"	"	134	
Madras	Merchantable	4,171	6,890	(c) 11,061	"	5,492	16,543	
	Unprofitable or inaccessible	2,833	5,385	(d) 7,926	.	14,369	22,315	
Bombay	Merchantable	7,642	1,103	(d) 8,745	"	165	8,910	
	Unprofitable or inaccessible	.	5,140	(d) 5,140	"	"	5,140	
TOTAL	Merchantable	66,709	78,090	1,14,799		205	39,378	1,84,382
	Unprofitable or inaccessible	11,834	1,39,715	1,51,129		667	25,735	1,80,591
GRAND TOTAL		81,093	2,17,805	2,98,928		872	65,113	3,64,041
Percentage of total Forest Area		22.2	59.7	81.9		0.2		

(a) Includes 2,485 square miles of Ryotwari Forests
 (b) Includes 1,163 square miles of Ryotwari Forests
 (c) Includes 3,35 square miles of Ryots Forests but excludes 621 square miles of reserved and leased land
 (d) Includes 2,279 square miles of reserved and protected Forests not under the management of the Forest Department.

APPENDIX 1.

STATISTICAL DIAGRAMS RELATING TO FOREST ADMINISTRATION IN BRITISH INDIA.

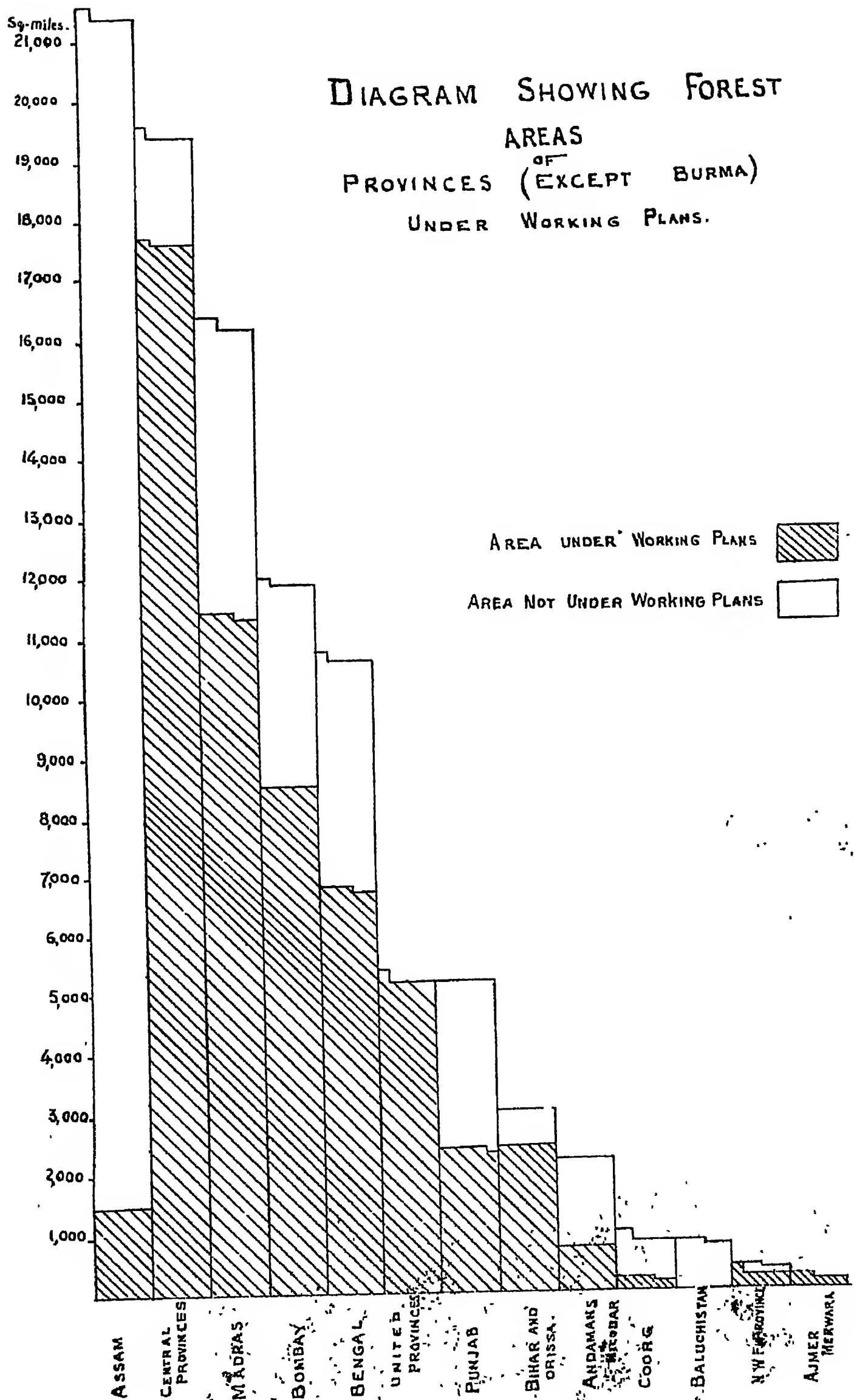
Area under the control of the Forest Department compared with total area of British India
(including the Shan States).



Total area -
1,099,503 Sq. miles.

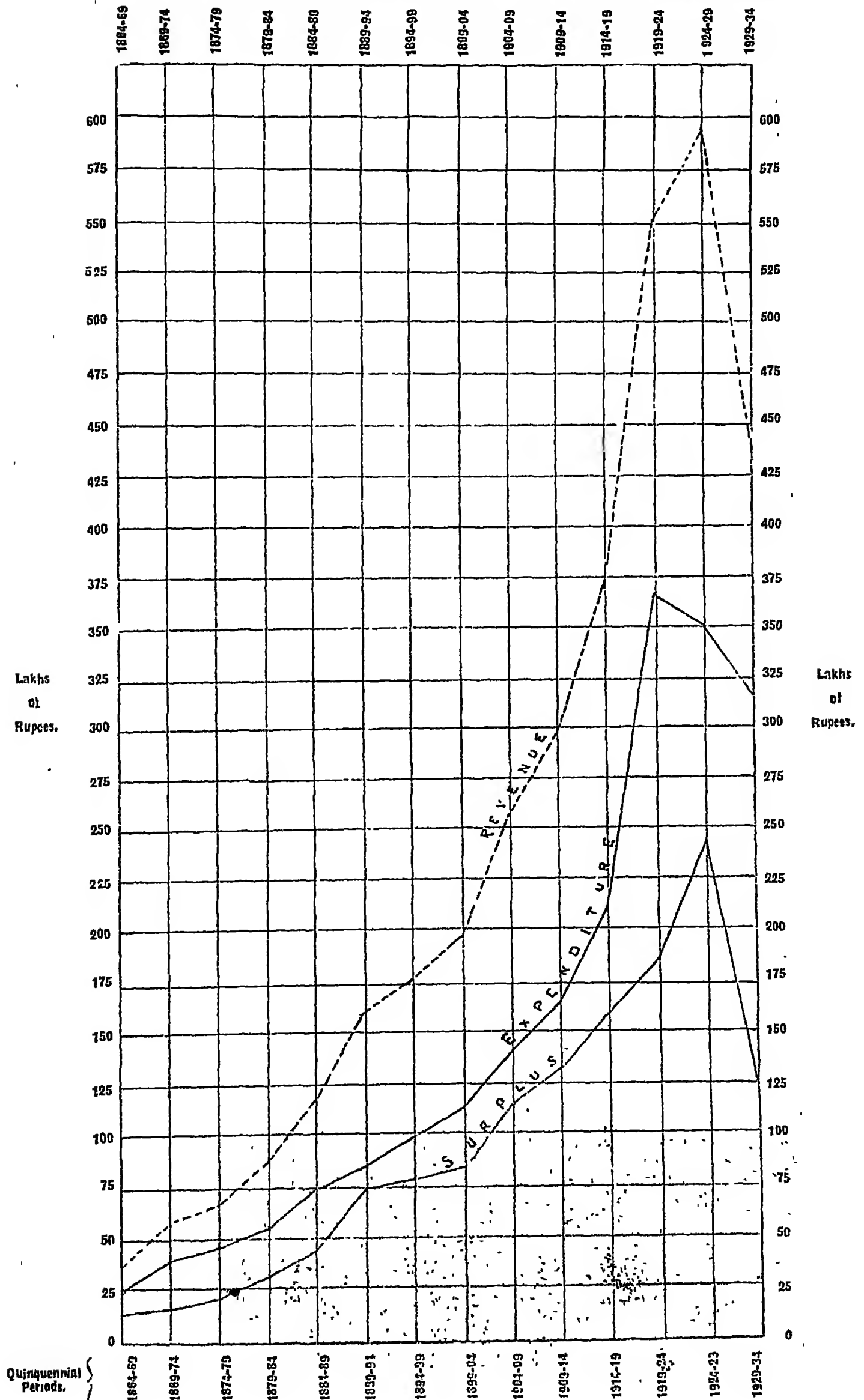
- A. Reserved Forests 106,079 Sq. miles.
- B. Protected " 7,003 " "
- C. Unclassed " 109,582 " "

APPENDIX 2.



APPENDIX 3.

GROWTH OF FOREST REVENUE AND EXPENDITURE BY QUINQUENNIAL PERIODS SINCE 1864-69.



APPENDIX 4.
DIAGRAM SHOWING ANNUAL FOREST REVENUE, EXPENDITURE & SURPLUS
for the 10 years 1924-25 to 1933-34.

